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Students of Worcester Technical Institute

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The

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Vol. X.

Saturday, July 7, 1894.

No. 6.

COMMENCEMENT NUMBER.

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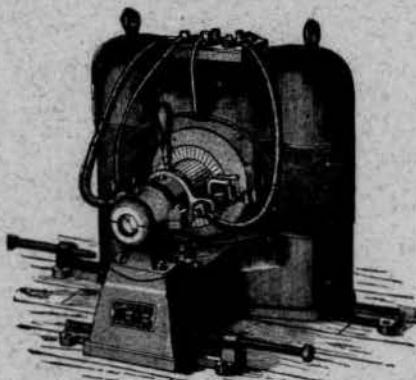
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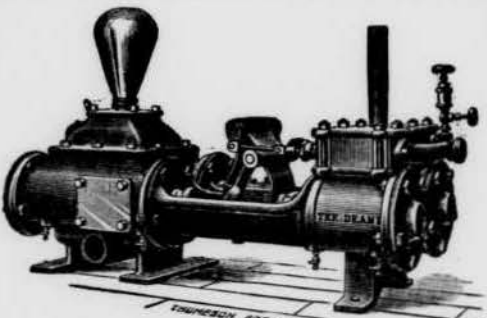
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Homer J. Fuller

THE W P I

Vol. X.

WORCESTER, JULY 7, 1894.

No. 6.

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The W P I is published by the students of the Worcester Polytechnic Institute on alternate Saturdays during the Institute year. Items of interest are requested from students and alumni of the Institute. All matter must be written in ink and accompanied by the author's name, not necessarily for publication, but as a guarantee of good faith on the part of the writer.

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The class of Ninety-Four has said farewell and is now to be remembered with the twenty-three other classes that have left old Boynton Hall, never, at least as a class, to return. The goal that three and a half years ago seemed so distant has at last been reached, and yet, looking back in retrospect, how short seems the time!

Can success or failure in life ever have greater significance or effect upon the individual than when a student, and those who have completed, and made a success of, their course here are in a fair way to accomplish that which they may undertake in after years. And yet, what better illustration of the survival of the fittest can there be, than that furnished by a class of college graduates? The number of Freshmen entering the institution is large, comparatively, but the inroads ever being made upon the numbers, either through personal choice or that of the Faculty, tends to constantly diminish the number, until at graduation it is only those whose capacity has proved itself equal to the rigorous training of mind, brought about by the college curriculum, who are numbered among those who receive the cov-

eted sheepskin or parchment. The rest have fallen by the wayside.

The class of Ninety-Four here needs no eulogy or encomium to be pronounced over her, for this has been done elsewhere. Neither is it necessary to relate in detail the virtues and prowess of the class. Suffice it to say, she has always shown herself to be composed of gentlemen; she has always taken a deep interest in the Institute's welfare and has ever been willing to work to that end; she has been at once, a class of athletes and scholars, and between its members there has always been a strong bond of union.

Seniors of '94, here's to your health! May you prosper in your life-work, be it what it may; retain your affection for the Institute, and think of those you have left behind and who are now toiling toward the goal you have already reached, and may you ever be a credit to yourselves and to your Alma Mater.

The W P I wishes you unbounded success in future undertakings and, as a representative of the student-body, assures you that we who are left behind bear nothing but the

friendliest of feelings toward you and will always entertain the keenest interest in your welfare. As a parting injunction we would exhort you to bear in mind the oft-quoted adage :

"Lift manhood up
Through broader culture, finer manners, love
And reverence to the level of the hills."

It is now nearly a year since the excuse book made its exit and the present system of absence-marking was adopted. The system now in vogue has been thoroughly tested during this time and has proved a most excellent one in all departments, with the single exception of shop practice. The attendance has been quite as regular as under the former system, while the ten per cent. limit of cuts has, in almost every case, proved sufficient, as is shown by the fact that few have been obliged to take special examinations for over-cutting.

With shop practice, however, the rule is unsatisfactory. That such is the case is not owing to the system or rule itself, but rather to certain other rules, made last winter, in regard to deducting from the students' marks for absences. At the time these modifications were adopted they were universally objected to by the student-body, and the justice of these objections has been plainly shown by the recent reports, where many students received D whose mark in shop had previously been A or B.

When the marks are handed to the Superintendent by the heads of the various departments they should represent the student's efficiency in that branch, as evinced by the character of the work done. But the marks in the shop do not represent the student's ability in the great majority of cases. It is a fact, that for each half-day of absence from practice, the mark of the student is lowered two per cent. But this is not all, each student is obliged to make up

this lost time, nor does he get any credit for it, no matter how well he does it. This would not be so very terrible if the student were given a little lee-way in the matter of absences before this evil descends upon him. We fail to see any reason why the ten per cent. cut system should not apply to the shops in exactly the same manner as it does to other Institute work. When the student has reached his limit of cuts there might then be some cause for reducing the student's standing when absent.

The rule now in vogue regarding absences at the shop is most unjust ; it does not allow the marks to represent the student's efficiency and ability ; it reflects considerably upon its framers and the sooner it is abolished and the ten per cent. rule substituted the better for all concerned.

Now that the base-ball season is over, we hasten to congratulate manager, captain, and team for their excellent work, and to present our readers with a cut of the nine that has so acceptably represented the Institute this spring. They certainly, one and all, are deserving of much praise and credit for their fine work.

At the commencement of the present year, it was the general opinion that base-ball here was dead, and that the Institute would not be represented by a team worthy of the name. But this view of the situation, taken by those who desire to look at everything in a pessimistic light if possible, we are glad to say has proved a mistaken one and to-day the Institute has as fine a lot of ball-players as it has had in recent years. This season the team has played ten games, winning eight of them, losing to Phillips Andover, because that team was the stronger, and to Boston Tech, because the nine was playing against nine good players and two umpires. But no excuses are necessary. We believe that any team should endeavor to win the

game on its merits, and if defeat is met that the same should be taken with as good grace and as few excuses as possible.

The management has on the whole been most excellent, and it will indeed be surprising if the Association does not come out ahead, due to the painstaking of Manager Gordon. But in his desire to keep the expenses as small as possible, we believe that he has gone to the other extreme in one or two instances.

But we have no desire to criticise the management, for, as has been said before, it has been in the whole excellent.

The W P I regrets but one thing in connection with this year's team, and that is, that it has been deemed advisable to end the season so early. At the time of disbandment the nine was playing in better form than at any previous time, and could have played a few more college games to good advantage.

Although all the games this year have not been with college teams, it is by no means the Manager's fault, for he did all in his power to secure games with other colleges. They, however, did not care to arrange games with a team that had the name of being poor and with one, to defeat whom meant nothing, but to be defeated by meant everything. But the nine this year has shown that it can give the average college nine a good game, and with proper management an excellent schedule can be obtained for next season. None of the team graduate this year, and as it is known that Ninety-Eight will contain some star players the W P I is led to believe, that next year will be the most successful in the history of base-ball at the Institute.

The announcement, made in the papers shortly before Commencement, to the effect that Dr. Fuller had resigned, did not occasion much surprise among the students, who had surmised the fact for some time, and for the last three weeks had been practically

certain that this was to be our President's last year at the Institute.

Dr. Fuller has occupied the presidency for the past twelve years, and during that time the growth in every direction has been great, as will be seen by a perusal of his historical address delivered at the graduating exercises and published elsewhere in this number. So much has already been said of Dr. Fuller and his usefulness here, that we feel anything we may here say is but repetition. He has proved himself during his administration to be an upright man, and one possessed of much administrative ability. He has always taken a personal interest in the welfare of every student. Like every college president or instructor of college men, his peculiarities and characteristics have been exaggerated and handed down to each succeeding class, which is done from force of custom rather than any personal animosity. But beneath all this there is a feeling in the heart of every student that the Institute has lost an able and hard-working man and the students, one who took a deep and friendly interest in their work.

Dr. Fuller has no definite plans formulated for the future, but all wish him success in whatever he may undertake.

We regret that we are unable to publish a more extended account of the Alumni Reunion, but as we were entirely dependent upon the Secretary of the Association for our report we could not do the Reunion justice in our columns. It was our intention to publish a full account of the affair, knowing, as we do, that it would be of interest to every graduate, and we had confidently expected the Association would send the W P I a complimentary ticket, as was done the dailies of the city. Receiving none, however, the Editor applied to the Secretary, drawing his attention to the fact and stating

that it was desired to report the affair somewhat fully. In reply, the Secretary said that he would furnish an account of the business meeting, and if the W P I wished anything further it could depend upon the accounts in the daily papers.

The whole affair in a nutshell amounts to this: the alumni complain that there is not enough of interest to them in the issues of this paper, and yet the Alumni Association denies the paper that represents their Alma Mater admission to a meeting which is of interest to every alumnus. Be consistent, gentlemen. If you want us to furnish the news, at least give us the opportunity.

For the past year there has been considerable discussion and agitation by the Faculty regarding the abolition of examinations for those students who receive A or B in the given study. It is believed that, with the prospect of no examinations at the half, the student will make greater effort to reach a standard of excellence that does not necessitate the passing of an examination. Then again, in any institution there is sure to be more or less underhand work done during the examination hour. If the poor students alone took the examinations the amount of cribbing would be greatly diminished, for it is not the poor man that helps the good scholar, but rather vice versa.

If this partial abolition of written examinations goes into effect next year—as it is almost sure to do—it will have a very beneficial effect upon the mass of students, and greatly raise the standard of the Institute.

Just before Commencement, and again in the fall, the growth of grass on the Institute grounds is cut, and it is at these times that they are most attractive. There is nothing beautiful nor picturesque in a field of tall

grass; not so, however, with a well-kept lawn.

It may not be advisable to keep the entire grounds closely cut, but it certainly would not be very difficult to keep the expanses immediately around the buildings in other than the condition of a hay-field. The slight increase in expense incurred thereby would be fully balanced by the increased beauty of our grounds.

We are sorry to state that the cut of the ball team that was to have been in this number did not come out satisfactorily, and we have ordered another one to be made. This will be in the first issue of the paper after the Institute re-opens.

Owing to vacation, and the fact that many of the board have left the city for the summer, the greater part of the work of this issue has fallen upon three or four men, and it is owing to this diminished force that the paper is somewhat late in appearing.

With this apology, we wish our readers a pleasant and enjoyable vacation.

THE BACCALAUREATE.

The baccalaureate sermon was preached by Dr. A. Z. Conrad at the Central Church on Sunday evening, June 17th, the Senior class attending in a body. Friends and members of the Institute helped to make the audience number fully five hundred. Dr. Merriman also assisted in the evening service. The sermon is printed below in full:

Text: JOHN XVIII. 37. "To this end was I born."

I. VOCATION. Divine purpose permeates all creation. A divine end inevitably attaches to your existence. Individuality is ennobled and dignified because of a supernatural objective. A greater sublimity pertains to the birth of a soul than to the creation of a world. Both receive all their highest significance in divine purposefulness. Any correct conception of the place of man in the universe must rest on the postulate of the true sovereignty of God; a sovereignty all-embracing, yet consonant with an untrammelled individual freedom of volition. Freedom from narrowness with its resultant distortions, is insured only as we become possessed of the historic spirit which recognizes history as a *process*, and the onward march of humanity as an imposing processional under the eye and direction of the eternal God. The unbiased stu-

dent of history invariably discovers the footprints of Jehovah along the shore of a moving sea. A proper perspective will adjust itself to a retrospective, everywhere bearing the evidences of a plan of God. The marvellous and supernatural adjustment of means to ends is the Mont Blanc among historic facts. Inexplicable and apparently disastrous revolutions, with attendant social cataclysm and catastrophe, have proven to be God's forge and anvil whereby a new link in the chain of divine purpose might be fashioned. The fixed and ineradicable conviction that your life is a plan of God, is of unreconcilable importance from the moment of your first conscious choices to your last expiring salutation. It awakens a new self-consciousness in the mind of a child to experience a realizing sense of God's interestedness in his or her behalf. It vitalizes the multiplied interrogations born in the mind and heart of youth. A true grandeur attaches to life in the degree in which God is a recognized presence, profoundly concerned in its success.

The choice of a vocation will be intelligently made only when the basis of the choice is the realization of the purpose of God. Belief that existence itself is undeniable evidence that something which God regards worthy of our best effort awaits our doing, will lead to intent inquiry as to how that something can best be done. Which is only another way of saying that a search for the full discovery of God's plan will engage the thought and energy of youth, animated and inspired with the thought that birth and life has divine meaning.

Let the fact that there is a worthy place awaiting you in the world be duly recognized and you at once possess a freedom from the bondage of fatalism. No one can measure the liberty of soul, which obtains when the truth that *adventitious circumstances are not imperial* is fully received. God's word, history, experience, all testify to the same end, namely, that there is absolutely nothing arbitrary or capricious in the divine economy. The shake of the dice-box, the whirl of the wheel of fortune, these do not correctly represent life. The fortuitous and the accidental are such only in name. Individual and collective evolution are thoroughly legalistic. God reigns. Law is the method of the divine will. Legalism is not fatalism, for it always maintains right relations with human volition.

Every life is influenced by its working theory of Providence. The key to every biography is the soul's conception of God. It does not matter whether the belief has or has not taken logical form and found adequate expression in a creed. There is an active principle in the nature of a belief respecting God, which has more to do with the unfolding of life than all other beliefs combined. Temporal and eternal destiny are inseparably linked with your convictions as to God and His relations to you. Affirmations and denials of divine fatherhood mark the dividing line between altruism and egoism, benevolence and selfishness, strength and weakness, wise humility and ignorant presumption, fraternity and excessive individualism, success and failure.

When you believe with your whole soul that your vocation is by divine appointment, you are equally conscious of divine support. The undertakings of men in the face of apparently insuperable obstacles because the hand of Providence signals advance, is ever attended with phenomenal progress. The divine attributes and the divine law are pledged to bring to blessed consummation whatsoever enters into a coöperative effort with God to realize the ends of exist-

ence. The choice of a calling, and every successive step in worthily following that calling, ought always to proceed upon two assumptions: First, that God has a plan to work out in your life, and that this insures every man a place in the world, noble, honorable, worthy of his intensest effort, his best brain and heart. Secondly, that in finding and filling this place success is guaranteed. The stars in their courses fight with the man whose life is in harmony with the spheres and the laws of the universe. The cohorts of Heaven await the summons of any and every soul contending for truth and justice and who can truthfully flash in bold letters upon the career engaging his God-given energies, "To this end was I born." Choices independent of the will of God have no such guarantee of supernatural support. The comet in its swift flight may be more luminous than the planet, but it has left the path of safety; it is out of harmony; it is a law unto itself, and that means death. It burns itself out in measureless space or through fatal collisions is swallowed up, leaving only darkness where once its light rivalled the sun. While the earth keeps to its orbit we are safe, should it depart we are doomed. The coöperative forces of a thousand worlds engage to keep our earth moving through space with its diurnal revolution, but departing from her orbit these same forces could do nothing to prevent, but would hasten, her destruction. A self-chosen orbit, with disregard to divine appointment, gives uncertainty for the present and insures ultimate failure. You can claim God's support to any necessary extent just as long as you can turn to Him and say: "I am working out your plan. I am trying to glorify your name. I am making the most of life. To this end was I born."

Inglorious failure and ignominious defeats often accompany untiring effort and irrepressible ambition, and all because the individual is not moving in his divinely appointed orbit. He is in the wrong place. He is a misfit. We are every one of us placed similarly to our first parents in many respects. Our garden of Eden is our place of privilege and opportunity. Our garden partakes of the nature of a paradise in the sense that it offers us the privilege of happiness and large success until we drive God out of the garden of Eden. This men do by ignoring His plans, His appointments in human life, and engaging to please themselves, and with strange presumption defy His inexorable laws. It is a mistake to suppose that God ever drives men from Eden. We drive God from our paradise of opportunity and privilege and often, all too late, discover that the moment God leaves it, it ceases to be Eden and cannot possibly become a paradise of success. *To find your place in life and then to fill it, this is the whole duty of man.*

A working creed which will guarantee success in discovering God's plan and then working it out must comprehend three fundamental features. We must first believe in God as specifically concerned in you. So much interested in you that your destiny is of exceeding concern to Him. You must believe in the benevolence of His purposes; His power and disposition to communicate Himself to you; His will to save you from the love and guilt of sin, crown life with success and start you on an untroubled career of blessed service in the world to come. Secondly, you must believe in yourself. This is perfectly consonant with true humility. The man who, as Smiles says: "Goes about with an air of perpetual apology for the unpardonable presumption of being in the world," has no true conception of life. Belief in self demands a recognition of our germinal or potential wealth and

worth. There is no waste in the divine economy. We are then to believe that our natural endowments are the measure of our possible dignity. The acorn is insignificant until with the eye of a prophet we can see in it forests of oak. Our constitutional endowments ought to make us believers in our potential selves and this would awaken a Godly ambition to make the possible the actual. The moment you see in yourself a divine ideal which is capable of realization, you believe in yourself in a new sense. It is self-evident that no man is worthy of the confidence of others unless he has some confidence in himself. It is a recognition of what we may be that summons to action the forces of our being.

A third feature of a triumphant creed is, *belief in your fellow-men*. Here again the faith must be largely in the possible. Yet a faith in the sincerity of human purpose and professed desire is indispensable to the largest fraternity and the most wholesome philanthropy. To believe that every man represents a divine purpose encourages us to work with and for men that such a purpose may be realized. We are to believe that no man in this world gets so far from God's plan that he can not be brought once more to his proper sphere. The most beautiful aniline dyes are made from coal tar. Unshapely blocks from the quarry reappear from the hands of the sculptor as a "Nydia," a "David," a "Greek Slave." This triple creed will become a mighty impulse in the soul. It will nerve to duty before which the ordinary unbelieving mortal would shrink, tremble, turn and flee. It dignifies all labor. It obliterates false distinctions between various kinds of occupation. It labels labor according to the motive which underlies it. It ranks a good mechanic far above a poor lawyer, teacher, or preacher.

The choice of a vocation with a view to the fulfillment of the divine plan in your life has all the decided advantage of eager anticipation of prosperity, and hopeful assurance of ultimate success. It continues a stalwart courage under the most distressing temporary reverses. It fixes the eye upon ultimates. Reverses are accepted as parts of the plan which writes in large letters the word *success* on the goal, though a thousand apparent disasters intervene.

Hostilities in life are determined. Acclivities are steep. Barriers are obdurate. All this demands concentration of energy. Definiteness of direction is a *sine qua non* of large success. The drill must keep to the same point, if the flinty rock shall be compelled to open a door to hidden treasures. The prow of the ship must hold well to a distant objective if she shall make port safely. The ranks of an enemy are broken by focusing force. Every new subjugation of natural forces has been the result of an indomitable will following the light of reason toward a single objective. The Wizard of Menlo Park denies that his discoveries have been accidental. He says the secret of his successes is nothing more nor less than untiring labor with a *purpose* ever in view. Vocations have multiplied marvelously. Instead of a few professions and trades there are now thousands demanding the best brain and the undivided devotion of specialists. Mechanical complexity increases the demand for accurate workmanship; political complexity necessitates experts in diplomacy and economics; social complexity has called forth an army of specialists who have made themselves authority upon special features of our social organism.

"To this end was I born," means something more definite than it once did, especially as relates to daily occupation and life vocation. Every man imperils

his success who undertakes to checkmate Providence. Either to ignore or oppose the leadings of God is to insure suffering and defeat. The prophet refugee renouncing his commission to Nineveh stands forever as illustrative of the consequences of deliberate disregard of life's plan and purpose as written in Heaven. How forceful the illustration of how God defeats the plans of men when they run counter to divine ideals and purposes, as seen in our Civil War. The avowed purpose of the war at the outset was not the emancipation of the slaves, but the preservation of the Union without interference with established institutions. Our forces went into the field only to suffer one defeat after another. The fate of the nation seemed to hang in a balance poised by invisible hands. But when the proclamation went forth comprehending the Christian idea of true brotherhood, striking off the manacles which had been forged under constitutional and legislative permission, when the northern armies began to work out God's plan, and to feel that as an army they could say, "To this end were we born," a series of successes began to attend our arms, which culminated in an established national sovereignty and, so far as our nation is concerned, in a universal personal liberty. It was through defeats we were whipped into line with truth and justice.

Perversions of power invariably call upon them the chilling shadows of divine displeasure. Waste is always sinful, and retributive justice is never far removed. A thoroughly equipped mill rusts and rots on the banks of a dry stream in Dakota. It was the result of superficial observation leading to its construction during a freshet. At immense expense mining machinery was borne by a prospector hundreds of feet up a mountain-side in Nevada, only to find that a miscalculation in the wealth of the ore rendered the machinery useless. These have their counterpart in the mistaken choices of men, mechanics in the pulpit or the court-room, artists behind the plow, natural farmers trying to fill the place of the physician, men anywhere and everywhere trying to do what they were never born to do. *That work is noblest for me which I can do best.*

Utterly false conventionalisms are accountable in no small degree for the false labels which occupations carry. The passion for praise, the yearning for social position, leads parents to ignore divine appointment for their sons and daughters, as indicated in natural capacities and tendencies and aptitudes, and all through life misplaced men and women are compelled to work at a disadvantage, making successful competition impossible. The God who plans and appoints is more concerned for the success of His enterprises than we possibly can be. Every soul, therefore, since he or she represents a divine enterprise, may be assured that the God who plans will guide to success if permitted to do so. You may know you are in the right place if you seek God's counsel and honestly follow your convictions.

II. PREPARATORY PROCESSES. There is a sense in which life is a perpetual process of preparation for new pursuits. Each step is to be regarded as the determining factor in all subsequent steps. All days, both of time and eternity, will in some degree bear the imprint of to-day. Hence the sacredness of all time and all effort. The watchword of the honestly ambitious soul ought to be "*Plus ultra*." "Not as though I had already attained" is a humble confession, but it is also an upward, onward eagerness of expectancy, drawing, as by celestial gravitation, to highness and holiness. There is, however, a sense in which school life is distinctly preparative. Impressed with

the grandeur of God-given work, conscious of a place in this world by divine right, what is more natural than painstaking care in preparing to worthily fill that place. School life is the intellectual and moral drill-ground of men who are determined to do battle. It is calculated to aid in unfolding the potential power implanted by the Almighty.

One of the most illustrious teachers this world has ever known, the Tarsan hero and Christian prophet, Paul, sums up the whole purpose of instruction in two words addressed to Timothy, "Thoroughly furnished." These are the words which express most perfectly the single objective of the four hundred colleges, the institutes of technology, and indeed all other educational institutions of this and every land. Work of sufficient importance to be called a plan of God, can require nothing less than the *completest equipment* for its accomplishment. A thoroughly furnished man can most surely glorify his God, and bless his fellow-man. He is one who has appreciated the unlimited privileges and the solemn obligations of living in this world. The equipment men need and which the schools engage to provide is this: making the intellectually and morally possible the actual. It is calling into life and growth the seed germs God has planted in the mind and heart. It is making the acorn an oak, whose branches may afford shade or whose timbers may become the beams of merchant ships or war vessels, or the swift, wave-riding, storm-daring passenger palaces of the sea. True education comprehends physical, intellectual and moral power. The realization of divine ideals is the all-controlling principle of every true process of education.

Attention has been called during the past few years to the indispensableness of a sound body in order to the largest success and the greatest happiness. Physical culture as a preparatory process can not be easily overestimated. The well equipped gymnasium and athletic sports wisely directed are not properly the subjects of captious criticism, but rather of congratulation.

We of this generation are witnesses to the splendors of the supremacy of mind over matter. Intellectual *nomination* is the absorbing thought of educators. Every possible method which seems plausible to modern psychologists is tried by our educators in order that more rapid and more effective development of the mental faculties may be realized. A grand inquisitiveness in the mind itself aids the instructor in his work. To be thoroughly furnished demands ability to think accurately, powerfully, continuously. There is positively no work worth doing in this world which is not worthy of thought. Our debt to the brain workers of past generations and of present days is great beyond estimate. That is not the best equipment for service which has filled the mind with the facts of life, but rather the one which leaves the mind so disciplined that it may discover, weigh, measure and conclude for itself. *To know how to use the mind to the best advantage, this is greatness.*

"The business of education is not, as I think, to perfect the learner in any of the sciences, but to give his mind that freedom and disposition, and those habits which may enable him to attain every part of knowledge of himself."—*Locke.*

But granting all the advantages of an excellent physique and perfect health, granting further a mind vigorous, penetrative, keen, accurate in analysis and strong in logic, if preparation stops here you can never attain that end for which you were created and endowed. The mind and the body require guidance. A thoroughly furnished man must be filled with heroic

impulse to do and to be. The moral nature stands highest. The greatest, the grandest, the highest and holiest in man is his power of will.

Schopenhauer says: "The normal man is one-third intellect and two-thirds will."

"Liberty of conscience can not mean liberty to do what I like. It is from my likings that I must be emancipated if I would be a free man."—*F. D. Maurice.*

Self-mastery is man's only assurance of external imperialism. Until we can properly hold the reins of the steeds of our own chariot, every augmentation of physical and mental power increases the swiftness of disaster. The only discipline which will assure us self-possession is self-discipline. Nothing essential to true eminence is impossible to the self-possessed self-controlled man. But we are self-possessed and self-controlled only when we are God-possessed and God-controlled. The thoroughly furnished man must be conscious of personal rectitude. A business man of New York city once told me that one of the most important factors in his whole life was the spirit contained in a word of counsel given him by an aged friend when he left home, a reckless, thoughtless young man. "John," said he, "respect yourself." In subsequent waywardness these words often led him to rush from the presence of carousing companions and finally brought him to the feet of the Crucified, that he might learn the secret and possess the power of *self-mastery*, that he might thus respect himself. My first question to you, young gentlemen, is not as to your standing in the class-room, though this is immensely important, it is not as to the financial offers already made you, it is rather this,—are you furnished for your occupation with the power of *self-control*? Are you sure of the permanency of your present rectitude of life? You are called to be pillars in society and the nation, but let the pillar be never so finely polished, never so beautifully carved, strong in every part, yet the moment it begins to incline it begins to lose its quality as a pillar of power. Incline it a few degrees and it no longer supports, but imperils.

Your moral and spiritual qualities are all-determining as to the position of your intellectual strength. Is uprightness predicable of your life now? If so you will bless the community in which you are to live; if not, unhappy those who shall make you their associate. Courage, dignity, beauty, these are the offspring of self-mastery. The thoroughly furnished man, above all other things, understands the secret of *applying Almightiness to his own soul.* He will keep close to the base of supplies. He will study the secrets of the light which shines from historic stars of the first magnitude. Every great and every good life of the past is only an expression of *applied Almightiness.* It is something to say "I am." It is a recognition of individuality with associated responsibility. Great is the gain when a soul can look into the world about and the Heaven above and with confident convictions say "Thou art." But even now God though recognized may not be a pleasing thought to the mind. He may seem far off, a cold spectator or perhaps a tyrannical sovereign, but from a vacillating, faltering, trembling or indifferent soul, man is transformed into a confident, courageous, hopeful, intrepid hero, but taking another step in advance and looking into the eye of infinite love, drawn to Him by an irresistible impulse says, "We are." "All things are possible to him that believeth."

The men we need to-day are men so infused with Almightiness that they can not be moved by threats of violence from the path of duty. We need men who will say when following any line of obligation,

"To this end was I born, and for this cause came I into the world," men whose divinely illuminated intelligence can not be misled by sophistries nor beclouded by artful pretence; men who can not be bought by custom nor the love of gold or fame; men who in the supremeness of their exalted purposes are invulnerable to invective and abusive criticisms. Such men we can have only as God incarnates His truth in them.

"No false alarms or suffering real can then affright
The soul which by this inner sight
Beholds itself encircled quite
Within the arms of everlasting love.

"Since I have learned how faith thus saves the truly wise,
I am content, although the waves of trouble rise
To mountain heights upon life's sea;
For they but serve to carry me
Still nearer to the clear blue sky above."

Do not, I beseech of you, gentlemen, undertake the stupendous task set before you by divine appointment half-equipped. Let there be completeness in your furnishing. Lay hold of the truth which makes wise unto salvation and which starts you on your way greater than Alexander, a conqueror of the world that subdued him, namely, the world within you.

III. PURSUIT OF DIVINE IDEALS. We have considered "Vocation" as an ideal or plan of the Almighty presented to the individual man; we have contemplated the nature and necessity of preparation for the realization of high ideals in life; it remains for us to inquire into some of the methods and consequences of a faithful pursuit of divine ideals. It is not enough to accept truth. To know duty is not equivalent to doing it.

"The wave is mighty, but the spray is weak!
And often thus our great and high resolves,
Grand in their forming as an ocean wave,
Break in the spray of nothing."

"It is good to purpose wisely. It is better to perform faithfully." Opportunity is never wanting to the man who wills and works. The invitations to active engagement are so numerous that we do not wonder there is confusion in the mind what door first to enter. Let it never for a moment be forgotten that sacrificed service marks every avenue leading to ultimate success as God reads success. No one has better opportunity to fill life with noble sacrifices than the educated man of to-day. Possession is the first requisite to beneficence. Enriched with mental culture, yet using that wealth for the blessedness of the human family, this is Christlike. How little though do men understand the genuinely benevolent soul. When Celsus had vividly portrayed the Saviour suffering on the cross, enduring every indignity which an evil, malignant mob could heap upon him, he cried out, "In the name of wonder, why, on this occasion at least, does he not act the God and hurl some signal vengeance on the authors of this insult and anguish?" We should rather ask how could He have more truly acted the God than, having power to crush his tormentors to earth, he refused to use his power for his own release, but cried out, "Father forgive them," and in infinite love for a lost world died to fill the world with life. "He that loseth his life shall find it." There is not a paradox more certainly verified in human experience than this. To be dead unto self and alive unto Christ and humanity, this is to live, with all the term can signify.

In the pursuit of divine ideals set before you as

perfectly possible of realization, you need a judicial temper, which will enable unbiased decisions; you need the spirit of self-abnegation, not of the ascetic type, but of the wholesome, sacrificial type. You need a healthy altruism, which alone will afford a proper arena for the full testing of your highest powers.

Much, very much is determined by attitude. Your relation to the times in which you live will be largely what you chose to make it. You will be compelled to build on the side of your hopes or your fears. If you construct on the side of your fears, everything you touch will be shadowed. Build always on the side of your most exalted hopes. Sanguine expectation has the glory of the past and the power of the present. *A well balanced optimism like a sweet aroma pervades only to bless.* The optimism we need is a combination of zeal and knowledge and faith in the survival of the best, as tested by ultimate standards. Possessed of these qualities you will stand face to face with boundless privileges. Educated young men are at a tremendous advantage. According to carefully collated statistics, the chances of a fair degree of eminence are, for a college graduate as compared with others, 250 to 1. This means responsibilities which cannot be lightly set aside. You will be expected to manifest a lively interest in *progressive industrialism*.

The distinguishing feature of our civilization is its industrial energy. How to multiply our productive power is the question of paramount importance to inventors and economists. Improvements in means and methods ought to be expected. The accumulation and distribution of wealth is an immensely important question, and society has a right to your best thought and your fullest coöperation that higher industrial ideals shall be realized. Business ethics demand revision. A separation of religious principles from business principles is ruinous to both business and religion. We are to throw our whole influence against erroneous distinctions between the sacred and the secular, and know that a thoroughly principled industrialism is not common or unclean. This, indeed, is the very field in which to test the grandeur of the Decalogue and the Sermon on the Mount. You who are to enter upon a business career peculiar to your various vocations ought never to rest satisfied until you have succeeded in giving the lie to the all too prevalent opinion that integrity and uprightness are not consonant with business success in these days of fierce competitive conflict.

Again, the inseparableness of individual and collective interests from government demands from each of you in a conspicuous degree *political patriotism*. The comforts and successes of men are vitally connected with legislative and administrative action. The patriotism especially demanded of the citizen of to-day is *political patriotism*. While the spade of the archæologist is unearthing the records of ancient dynasties and emphasizing characteristics of tyrannical monarchies, the investigator's spade of legislative committees is uncovering the dens of infamy which have been concealed beneath glittering externals, successfully counterfeiting justice. A base prostitution of political power in the interests of systematic brigandage is found to have been suffered for years with ever increasing boldness and virulence. It is the duty of every man in whose heart a passion for righteousness and justice burns to say, "To this end was I born, politically, that I may aid in protecting the weak from oppression, in making virtue easy and vice difficult." There is an especial demand for intelligent and courageous political action which will suffer no man under the semblance of obedience to law to

profit by tithing a protected and fostered infamy of any sort. Have the courage of your convictions and no matter upon whom the blow may fall strike hard at such treachery. "The wicked flee when no man pursueth," but Dr. Parkhurst has said wittily and truly, "I notice they flee a good deal faster when some one is after them."

Again I plead for a judicial temper in your expressions of political patriotism. The statesmanship demanded for the preservation of the good we have and the attainment of a higher political excellence is one, not for the few, but for the many, a statesmanship for the average citizen. There must be a citizenship sufficiently dispassionate and unpartisan to secure unbiased decisions. Excesses are as perilous in legislation as anywhere else. Excessive individualism imperils liberty. Excessive paternalism is sure to injure by unwarranted interference and will inevitably cut the nerve of industrial enterprise. An increasing proletariat class gives new complexity to legislative questions. The thing we are to stand for with respect to this class is that it is the duty of government to give to every individual his inalienable rights, not bread, but protection from any interference or oppression in industrial effort.

Perhaps never before in the history of the race was there so much being said about and done for *social regeneration*. Here is another field inviting the attention of all men everywhere regardless of profession or calling. "How to make the world better?" is the laudable inquiry of the best men. Practical benevolence and beneficence is recognized as a high form of worship. How can people live together more peaceably and profitably? How can we reduce the friction which absorbs so much of the collective energy of the people? How can power be made to recognize and act kindly toward weakness? That there must in some way be effected a social reconstruction seems perfectly clear to all who hope for the greatest good for the greatest number, or better yet, the greatest good for all.

There is, furthermore, a general consensus of opinion that social reconstruction is to be effected *through organized personal service*. "Enthusiasm for humanity" is leading thousands of men and women to pour out their lives for the world. The greatest educating force in this world is a living, throbbing heart. What you do for society you will do by pouring your highest self into it. If you are "thoroughly furnished" you will be a valuable accession to the ranks of the army of moral reform. No man can measure his own power to mould the beliefs of his age. Do not depreciate your talent in this respect. Assume that under God it is mighty. Hold your influence as sacred as your life. Act as though the well being of humanity depended upon your decisions and conduct. "Christ died to make men holy, let us live to make them free."

Gentlemen of the Graduating Class:—Pledge yourselves at the very outset of your career to realize the divine purpose in your life. Nothing but the best is worthy of you. God asks no man to neglect or undervalue truth which is especially revealed in material forms. He asks no one to diminish by one jot or tittle his ardor in his chosen occupation. He only asks of men to make the most of life; and while with intellectual might they undertake the mastery of untamed forces and with keys fashioned in the heat of mental fires to unlock the arcana of nature, they shall understand that all these are but means to ends higher, holier, immortal. He says to the geologist, "Smite the rock until it shall tell you its story of a remote past but do not forget the Rock of Ages in whose

cleft the treasures of salvation, safety, and peace are awaiting appropriation." To the botanist He says, "Behold the lilies of the field, revel in their God-given beauty, inhale their Heaven-sent sweetness, then unroll the scroll of truth contained in petal and stamen and pistil, and calyx and ovule, tell to a wondering world the wisdom of it all, but forget not to turn your eyes in grateful admiration to the Lily of the Valley and the Rose of Sharon, whose unfolded glories are a revelation of humanities' possibilities. Sweep the heavens with your telescope and tell the world of systems and suns, of boundless spaces, of harmonies divine, of music too exquisite for mortal ear, of the sweet influences of Pleiades and the "sons of Orion," but oh! do not neglect amid this lesser glory to fix the object glass of divine revelation upon "The Bright and Morning Star" of humanity. The light of the world and the hope of the world is Jesus Christ.

Study with all intentness chemical substances, calling to your aid retort and blowpipe, but all the while remember "the things which are seen are temporal, the things which are not seen are eternal."

Let your investigations continue along the lines of civil, mechanical and electrical engineering until our rivers shall all roll their waters beneath the shadow of arches of woven steel, and mountains shall open wide their mouths for the transit of fire-breathing steeds of commerce, but do not turn a deaf ear to the call from the skies. "Prepare ye the way of the Lord; make straight in the desert a highway for our God." Admire and applaud the heroes of all ages, but be not blind to discern, "Him that cometh from Edom with dyed garments from Bozrah; He that is glorious in His apparel, travelling in the greatness of His strength," the hero of Calvary.

Filled with an inspiring love for truth, representing in your own life the sublimeness of new incarnations of saving and sanctifying truth, your life will become a storm-defying, wave-walking, summit-reaching life; your flight, not that of the low-flying and finally overpowered and drowning sea gull, but that of the strong-winged albatross, terrified at nothing, perfectly poised when confusion surrounds her; in peace and war alike triumphant.

He who engages in his tasks with the controlling conviction "to this end was I born," will write on the capstone of his life arch, "I have fought a good fight; I have finished my course; I have kept the faith"—the end will be but a beginning, for borne in the arms of an irrepressible hope, with his last expiring breath he will say, "henceforth there is laid up for me a crown of life."

"If all the end of this continuous striving
Were simply to attain,
How poor would seem the planning and contriving,
The endless urging and the hurried driving
Of body, heart, and brain.
But ever in the wake of true attaining,
There shines this glowing trail,
Some other heart will be spurred on, conceiving
New force and strength, in its own self believing
Because thou didst not fail.
Not thine alone the glory or the sorrow
If thou dost miss the goal:
Undreamed of lives in many a far to-morrow,
From thee their weakness or their force shall borrow:
On, on, ambitious soul."

CLASS-DAY EXERCISES.

The morning of the 21st of June dawned brightly, and brought with its sunlight, joy to

the hearts of Ninety-Four, for this was class-day.

The time set for the commencement of the exercises was half-past two, but long before that time the friends of the class began to arrive. So popular has the class been that the number of seats, which formerly have been sufficient, proved to be wholly inadequate to the demand, and the same was true concerning the programmes.

The exercises were held on the campus, to the right and back of the Electrical Testing Laboratory. The platform for the speakers was placed at the foot of the slope, and directly in front of the platform sat the class, while numerous seats were filled by the many friends of the class; back on the bank of the hill the undergraduates viewed the ceremonies.

Promptly at the appointed time, class yells, and strains from Battery B Band were heard in the distance, and soon the members of the graduating class came into view, led by Mr. Alba H. Warren, '95, chief marshal of the day. The class formed around the class-tree, and preceded by the band, marched down the winding driveway to the seats reserved for it.

On the platform, which was tastefully decorated with the class colors and palms, were: President Eugene B. Whipple; Class Historian, Lewis Abner Howland; Class Statistician, Henry Nevin Smith; Class Orator, John Martin Gallagher; Valedictorian, Shepard Brown Palmer; and the officers of the class.

The predictions of the morning for pleasant weather were not fulfilled. At the commencement of the exercises, thundering was heard in the distance, which soon became louder and more violent. But the good luck of the class stood by it to the last, for not till the close of the exercises did the rain commence.

Once the President announced that the remainder of the exercises would be held in the chapel, but Dr. Fuller, from his seat in the rear, established his name as a weather-prophet by rising and, in spite of the drops then falling, saying that the rain would amount to nothing. His judgment proved correct.

President Whipple, in his address of welcome, spoke as follows:

"We take great pleasure in welcoming you here this afternoon, and it is a compliment to us that you have come in so large numbers. We thank you for the interest you have shown in the class, and for the trouble you have taken in coming to these exercises. The associations of the day are joyous, but, nevertheless, they are attended with sadness; we feel glad because we have nearly reached the goal toward which we have been striving for the past three and one-half years; we are sad because we are soon to leave dear friends and acquaintances which we have made during our stay in the city.

"We have reached an important stage in our journey; thus far we have, as a class, made our way together; soon we are to be separated and thrown upon our own resources. In accordance with the time-honored custom, we have planted a class tree. This tree has been taken from a place where it has received the best of care, and it has been protected from the winds and storms; now it has entered upon a new life, and it must stand by itself and bear all changes of weather and condition. As time goes on, this tree, a healthy and promising elm, will become larger and stronger; it will take firmer root in the ground; its branches will shoot out and become larger and more graceful; it will be hospitable, affording a home for the birds; and its shade will be refreshing to generations upon generations of students.

"Like the tree, we hope to become stronger and more firmly established, and to be more helpful to our fellowmen. The tree is identical with the class, for each one has placed his portion of earth about the roots. The place between the laboratories and the shops, which we have selected for the tree, is one by which we have passed each day in the pursuit of our regular duties, and in future years, when any member of the class visits the Institute, this spot will bring fresh to his memory the days spent here."

The programme was attractively printed, and was as follows:

Planting of Class Tree.

Music. Overture, "Kallwoda."

Address by the President,

Eugene Bartlett Whipple.

Class History.

Lewis Abner Howland.

Music. Mazurka, "Hungarian."

Facts and Figures.

Henry Nevin Smith.

Class Oration.

John Martin Gallagher.

Music. Fantasia on "Old Kentucky Home."

A Glimpse into the Future.

Arthur Lewis Clark.

Farewell Address.

Shepard Brown Palmer.

Music. Finale, "A Minute Too Late."

Oration by the Mascot.

Mr. Alba H. Warren, who was chief marshal of the day, had as his assistants: Mr. George A. Denny, '95; Mr. Alexander W. Doe, '95; Mr. William H. Cunningham, '96; Mr. John W. Chalfant, Jr., '96; Mr. George W. Throop, '97; Mr. Henry S. Lancaster, '97.

The first two rows of seats were reserved for the class, while the Faculty occupied the third row.

The members of the class of 1894 are to be congratulated on this, their own, particular, finale to their course at the Worcester Polytechnic Institute.

THE GRADUATING EXERCISES.

The twenty-fourth annual commencement exercises were held in Association Hall on Thursday evening, June 21st, a large and interested audience being present. The exercises in some respects differed from those of past

years, there being no valedictory given this year at the graduating exercises, the farewell address of the afternoon taking its place. Heretofore the theses abstracts have been read in Boynton Hall on the morning of Commencement Day, but this year they took the place of the valedictory, being read in the evening. The Seniors occupied seats directly in front of the platform, while the Trustees and Faculty were directly to the right of the platform. The exercises were opened by prayer, offered by Dr. G. R. W. Scott of Leominster, Mass. Abstracts of the theses were then read, illustrated by well-executed maps and charts. They were not of so technical a nature, with one or possibly two exceptions, but that they were of interest to the person of average intelligence, notwithstanding statements have been made to the contrary. Those who read were:

Fred W. Sawyer, Test of No. 10 Dynamo.

Harry T. Goss, Marine Boiler Design.

Ernest A. Bickford, Garbage Disposal in Cities.

A. Harry Wheeler, Determination of Errors in Standard Meter Bar.

Recording Apparatus for the Measurement of Effluent of Worcester Sewage Works.

The next speaker was Dr. Fuller, who made an address on "A Quarter Century Review." The address was extremely interesting and will be found in full elsewhere in our columns.

Judge Aldrich, in introducing President Fuller, said: "Some twelve or fourteen years ago a vacancy occurred in the presidency of this Institute. The Trustees looked around for some time for a suitable man, but without success. Finally their attention was called to St. Johnsbury, Vermont, where Dr. Fuller was then engaged at the head of a preparatory school. He was having great success there, and an invitation was extended to him and, after much persuasion, he finally accepted, and Dr. Fuller came to take charge of the Worcester Polytechnic Institute.

"He has now devoted twelve years to this Institute and his devotion to its interests during that time will never be excelled. He has now concluded to retire, not to idleness, but to pursue work along other lines, and at this time it was thought fitting by the Trustees that he should deliver an address."

Diplomas were then presented to the members of the graduating class by Judge P. Emory Aldrich, President of the Trustees. Those receiving diplomas were:

Chemistry.

Ernest Armand Bickford, Berlin.

Clarence Willis Eastman, Worcester.

Edgar Alonzo Pratt, Waupun, Wis.

Harry Sumner Whitney, Worcester.

Civil Engineering.

Harry Chester Boyden, Worcester.

Warren Everett Brooks, Boston.

Herbert Prescott Linnell, Worcester.

Shepard Brown Palmer, Norwich, Conn.

Elliott William Peck, Stratford, Conn.

Henry William Pope, Southboro.

Otis Dana Rice, Worcester.

Warren Arvie Scott, Worcester.

Electrical Engineering.

Louis Roellas Abbott, New Britain, Conn.

Charles Arnold Burt, Providence, R. I.

Arthur Lewis Clark, Worcester.

Harry Lewis Cobb, Conway.

Clifton Howard Dwinell, Fitchburg.

Alfred Braman Grout, Leicester.

Harry Carver Hammond, Worcester.

Charles Gantt Harris, Washington, D. C.

Lewis Abner Howland, Spencer.

Edward Henry Keith, Worcester.

Leslie Killam, Yarmouth, N. S.

Frank Mackenzie King, Northampton.

Helon Brooks McFarland, Lamoine, Me.

Theodore Herrick Nye, Blandford.

Andrew Anthony O'Connell, Cherry Valley.

Fred Warren Sawyer, Fitchburg.

Elwyn Percy Smith, Franklin.

John William Soars, Jr., Newton.

Mechanical Engineering.

Charles Metcalf Allen, Walpole.

Murray Clifford Allen, Yarmouth, N. S.

William Jennings Baldwin, Norwich, Conn.

George Woods Bishop, Leominster.

Edward Lyman Burdick, Wauregan, Conn.

Charles Niles Chambers, Eugene, Ore.

Henrique Barbosa da Cruz, Rio Janeiro, Brazil.

Edward Walter Davenport, South Framingham.

Walton Boutelle Fuller, Leominster.

Harry Torbush Goss, Norwich, Conn.

George Washburn Heald, Greenfield.

Frank Everett Killam, Yarmouth, N. S.

Charles Frederick Perry, Worcester.

Henry Nevin Smith, Worcester.

William John Sperl, Leominster.

Eugene Bartlett Whipple, Worcester.

General Science.

Albert Harry Wheeler, Worcester.

Graduate Electrical Engineering.

Joseph Augustus Derby, Fitchburg.

Edward Warren Vaill, Jr., Worcester.

Elijah Stearns Wood, West Upton.

Mechanical Engineering—Class of '93, additional Diploma.

Everett Edward Kent, Worcester.

Ernest Woods Marshall, Worcester.

Judge Aldrich then announced the first six men in the class, and with feelings of joy each one stepped up to the platform as his name was announced and, amid applause from his classmates and the audience, received a check for seventy-five dollars. The six recipients of the Salisbury Graduates' Fund were:

Elliott William Peck, Stratford, Conn.

Frank Everett Killam, Yarmouth, N. S.

Warren Arvie Scott, Worcester.

Clarence Willis Eastman, Worcester.

Edward Lyman Burdick, Wauregan, Conn.

Leslie Killam, Yarmouth, N. S.

The benediction was then pronounced; the exercises were over; and the class of Ninety-four was no longer a member of the Worcester Polytechnic Institute.

CLASS HISTORY.

LEWIS A. HOWLAND.

A history is important, not simply for the mere stating of events that have occurred and their arrangement in order of time, but from the recorded experience of others we may gain the lessons learned, without undergoing the accompanying difficulties. Also, from the history of the past we may, at the present, quite accurately predict the future. The first is the advantage, if any, to the undergraduate; the second is of interest to the graduating class.

The history of Ninety-Four as a class began some three and a half years ago. Of the past history of individual members very little reliable information could be had at that time, but such information as the W P I gave us, furnished us with the idea that we were a most important class. We were conscious then that we were the centre of attraction around which the lesser lights were revolving; we knew that the shops would have to be enlarged to receive us, etc. So, feeling quite important, we began our work with great zeal.

We listened to those pleasant lectures of Faculty and instructors; stories that other classes had to tell; and as our undeveloped minds were then quite plastic, the advice of all was readily taken. . . . Our book work for that half was light training for the harder work that was to come, most of our time being spent with Mr. Badger in the wood-room. It was there that class friendships were formed, for, cut off from the rest of the world for the greater part of the time, we became well acquainted with our fellows. Time was not all taken up with work, for there were occasional songs, impromptu debates, story-telling and other entertainments at every favorable opportunity. We were also introduced to Prof. Gladwin and out-door sketching, and were convinced that the pencil-sketch could be made superior to the photographic sketch provided the student be sufficiently proficient. Although we did not reach that height of perfection, nevertheless sketches were made which "raise our spirits when the path of life seems darkest." . . .

Our athletic directors during this time had much to do with the present system of cross-country running, but we were very modest in the run, being satisfied with third place. In field athletics our modesty during Prep year was of the same degree. Our confidence in ourselves was not as firm then as it has been since, and so we were somewhat fearful as our first examinations approached. Fortunately, the marks were with us and so we were found ready for another year.

The football team for two years previous to our Junior, now Sophomore, year had been very weak, but in that year interest was revived, and although the games were few it was without doubt one of those transition periods we have heard mentioned quite frequently later in our course. . . . This was the half year of unannounced written exams., but as we were able to tell about the time of their coming, no great difficulty was experienced.

In the spring of this year compulsory chapel was abolished, owing to the increase in the number of students. The new system does not bring in so many students, but those present are entirely in sympathy with the exercises. Then, the men used to meet at chapel time and many acquaintances were made. These gatherings had a great tendency toward a stronger Institute spirit, which should always be everywhere present. The belief that further Tech life could not be harder brought most of us back again in the fall. We immediately tried to kill Wallenstein in our German and assisted Peter Schlemil in his unsuccessful attempts to regain his lost shadow. If we had had our say, we would have done the work in both instances in a much shorter time than did the authors. . . . About the middle of that year the length of all courses was changed to conform with the standard four-years course of other institutions of learning. The work has been re-arranged and more added, so as to make the work as efficient as possible. We who were the last of the Middlers again became Juniors in the catalogue enrollment, while '96 has the distinction of being the last of the Preps.

During our Senior year we have spent much of our time in our special courses. Many of us have been given a chance to ask "good questions" in Mechanics and if we have heard all that has been said should be able to go back to our fundamental formulas when occasion demands; we have learned the cause of the hard times, in our work with Dr. Haynes; we have also debated, much to the amusement of those who did not take part.

There are numerous improvements that have been made in our work and conveniences during the three and one-half years of our existence here at the Institute, some of which have already been mentioned. An addition to the Shop has appeared; recently a plant for experimental work in hydraulics was presented to the Institute by her greatest benefactor; a new engineering laboratory is an assured fact. One of the pleasantest of parks is developing in our immediate vicinity. By the change from the old excuse system to the new ten per cent. rule, a fairer method has been introduced.

You have heard the history of our short Tech life, or, rather let us say, it is the introductory chapter to a story which, when completed in the course of time, shall be found a most interesting volume. We are the ones who are to furnish the subject-matter and illustrations, and if each one does his work faithfully and with the same class spirit, the final chapter will be of the greatest interest.

Day by day, we have worked together; class spirit has urged us on; class interest has rewarded our every success; and, best of all, class sympathy has been present when the course looked dark. While here we have all moved together and perhaps some have not pushed as much as others. Now each man must take up the struggle for himself, actuated by the knowledge gained from hard study and by a strong moving Institute spirit. Our future relation to the Institute and its faculty should be like the mighty power of Niagara to the industrial world of the future. By means of the dynamo and the subtle wire, that great power of nature shall be transformed into useful work. So we, as Tech men, scattered throughout the country, drawing our inspiration through the invisible chord of love for our Institute and its faculty, should transform that love into a class spirit which shall make us a credit to the Tech and the Class of '94.

THE POWER OF THE PRESS.

JOHN MARTIN GALLAGHER.

As we study the history of any nation a point is always reached where a controversy ensues between the Government and the Press. The history of the newspaper is parallel with that of civilization; each new feature introduced is significant of political and social changes, while its tone, style, and opinions at any given time indicate the spirit of the time more definitely than any other index.

The conflicts for the liberty of the Press are too well known to be cited here. It has only been among oppressed peoples that this liberty has been infringed upon, and it is safe to say that in almost every case the final triumph of the Press was assured. The Press, as well as other institutions, has had its martyrs and sufferers for liberty. The history of journalism has many noble pages of tyranny braved and shamed by faithful censorship of kings, ministers and princes. Oppressors read their doom in the progress of journalism; tyrants tremble at its name. It is said that Napoleon feared the influence of the newspapers more than an army. Wherein, then, since it is so evident from history, does this great power lie? Is it not in the simple fact that wherever independent papers flourish, there liberty flourishes? It is because the Press is the people's educator; it is because the Press is the announcer of the people's rights, the champion of the people's doctrines; it is because, by public discussion, the vital truth is eliminated.

Macaulay has said that "the only true history of a country is found in its newspapers." For the newspapers are the history of the people, and the story of the people is the best indication of the character of the country. Montesquieu said, "Give me the writing of the national songs and I care not who has the making of the laws." This shows that the power of a few lines with patriotic sentiment to stir to action is greater than that of any law. The sentiment in the song is more readily observed, and, if the laws are unsatisfactory, the impulsive power of the songs can easily overthrow them. Burke, the great English statesman, said that, if he had only control of the newspaper press for one year, he would perform the greatest reforms, politically and socially, that could be conceived. Jefferson, in our own country's early history, said, "If I had to choose between a government without newspapers or newspapers without a government, I should prefer the latter." If the Press in those days could have done so much, there ought nothing to be impossible now, when it is in every respect many times as great an institution. So we see that the Press has been the great ruling power. No other power or combination of agencies has been able to confront it, for it has done battle with the hosts of grievance, superstition, barbarism, and despotism. We can have little doubt then that the Press has done much good.

But since it is so great a power can it not also do great harm? James Gordon Bennett, one of the greatest journalists of the age, declared the Press to be the living jury of the nation. And papers as well as jurors are susceptible to bribes. He further said that the columns of the Paris press were regularly sold in favor of any kind of speculation. Horace Greeley, another of the world's greatest journalists, said, "There are hundreds of newspapers which habitually violate all the decencies of life, and indulge in language and temper which cannot be thrown in the way of children without injury to their manners,

their morals, and their principles." The abuse which is heaped upon individuals, the slander and calumny which are the products of jealousy and prejudice, are the greatest evils of which the Press is possessed, and which are far too often exercised. The cheapest abuse, and the most contemptible, is that poured out in the newspapers. It is all the worse because premeditated, the insulting word may be uttered in the heat of passion, but the slanderous paragraph goes through the process of writing and printing, a deliberate act. No words rankle in the heart like those inflicted by the Press, and no agent of redress should be used without such thorough observance of the golden rule.

The mission of the Press is to enlighten, civilize, and morally transform the world. When in its infancy this was always its only motive, and it seldom failed in gaining its point. All the early English novelists are adjudged moralists, even though their stories seem to depict the very wantonness of immorality. Every one who wrote did so with the firm purpose of teaching morals. But in later days, it must be said that the newspaper has degenerated, speaking from a moral standpoint. Perhaps the great abuses in the world have gradually disappeared, and the Press, having no grand, lofty principle to fight for, falls to lower levels, and becomes a speculation, a piece of merchandise, rather than a preacher to benefit mankind. The editor is a monarch in the district in which he fulfils his journalistic functions, and at least the majority of his readers are his subjects. This fact ought to weigh heavily on the mind of every editor. If his power for good or evil be so great, the fact ought ever to be in his mind that the responsibility to his readers is correspondingly great. The opinion a newspaper advances has as much weight with intelligent readers as the editor, as an individual, is entitled to. But think of the masses of unintelligent readers who do not know the editor as an individual, who believe almost every word simply because it is printed in a newspaper!

There is something sublime in the contemplation of what the Press is capable, if all without exception contended for one common end. But for the present we must see, side by side, the cowardly hireling, who stabs reputation for a bribe, and the heroic defender of truth and advocate of reform, loyal with his pen to honest conviction amid the wiles of corruption, and the ignominy of abuse. But in our mind's eye, we can see a great power made much greater; we can see the great possibilities which seem not so far as they are. Alive to her great opportunity to shape the thought and character of her innumerable readers, conscious alike of her power and her responsibility, proud and sensitive to every encroachment upon her independence, as eager to tell what is true as what is new, proving all things and holding fast to that which is good, the Press may be second in her beneficence to no other power. Truly, when this grand state is reached, there will be no doubt then, if there is now, that the pen is mightier, far mightier, than the sword.

FAREWELL ADDRESS.

SHEPARD B. PALMER.

Friends and Classmates:

To-day is one of the important days in the life of each member of the class of '94. It is the point toward which we have been aiming;

it is the goal toward which we, for the past three years, have been struggling. As we entered the Institute, how long a time seemed these years; as we look back how rapidly they have flown. To-day, we have reached the goal; to-morrow, the goal will have become a milestone, and we will be pressing forward toward other marks in our lives.

There always seems to be an element of sadness in the word farewell. To us it means the leaving of these beautiful grounds in which we all proudly feel an ownership; the leaving of this picturesque city whose residents have always been so hospitable, and among whom we have formed so many pleasant acquaintances, but most of all it means the breaking up of the daily association among ourselves. But what more than counterbalances the sad element in the farewell, is the happy recollections of our school life that we take away. Memory is something that will always remain with us. Where is the man, no matter how old, who has no pleasant memories clustering around his college days? What a train of thought has been started within us, as we listened to the events related by the historian!

"Lulled in the countless chambers of the brain,
Our thoughts are linked by many a hidden chain;
Awake but one, and lo, what myriads rise;
Each stamps its image as the other flies."

The present is the sum total of the past, for it is made up of past experiences.

Saying farewell is simply a form, for we take with us the remembrance of all the happy incidents of our college life.

It is our privilege, as we go away for the last time from these familiar places, to say a few words, perhaps in the way of advice, to the undergraduates. During the past year we have guided you as tenderly as a father would a child. Many times, in the impetuosity of youth, have you recklessly started off on the wrong road, and only by our gentle words of counsel and advice have you been shown the folly of your course. We realize, as classes before us have, how much you will miss us in the near future, and we are laboring under the impression, perchance a mere delusion, that our places cannot be filled. But be that as it may, it now rests upon your shoulders to carry on the work of the student body. From your purses must come the laboratory fees and the breakage bills.

The responsibility of keeping the elevator in running order now falls upon you.

But these are minor duties as compared with athletics in its varied departments. We can not all be athletes, but we can all give our support to those who are. Do not be too modest, we know you will not, about calling for finan-

cial aid from the alumni, and we now consider ourselves almost within their ranks. The Glee Club, that organization of which Ninety-Four justly claims to be the founder, must be maintained and encouraged.

As this is one of our last meetings together as a class, we wish to speak a few words, in the way of farewell rather than advice, to the Faculty, that austere body who inspired us with so much awe as we entered the Institute, and with good reason, for there we find a combination of the three great departments of government, the legislative, the executive, and the judicial.

After the class of Ninety-Four had been connected with the Institute for a short time, they found out in some mysterious manner that the meetings of the Faculty were becoming exceedingly dull and uninteresting. As soon as this discovery was made, lively schemes were set on foot, and it has since been the policy of the class to give the Faculty plenty of material for deliberation. But we feel grateful to them for the kindly manner in which they have always aided us, not only in the class-room as teachers, but when we have met them as friends. At this time we wish to thank them for the interest taken in us, and as we go out into active life, we shall ever remember with pleasure our connections with the Faculty of the Institute.

Centuries ago, when chivalry was at the height of its splendor, the ambition of the youth of the period was to receive the title of knight. After having attached themselves to some great noble, they diligently worked their way through the duties of page and squire, and, finally, amid great festivities, they were dubbed knights. That ceremony signified much the same to those young men that these commencement exercises do to the graduating class.

They had spent years in the practice of warlike sports and in the study of true courtesy, simply as a preparation for their after life. Our work here is also preparatory, and we do not go forth as full-fledged engineers, but simply as students who have many lessons to learn. But we do go forth with changed natures, our characters have been moulded and developed. The experiences of these three years, the difficult tasks overcome, the lessons learned have entered into our lives and become a very part of our beings. The influence they will exert upon our future cannot be foretold, it is too far-reaching.

To become a knight, it was necessary for the young men to be possessors of a full suit of armor, in order successfully to cope with the enemy. Our armor is a trained mind and skilled hand, with which we take our stand to

battle with the problems which await us. The eagerness with which we look forward to our struggles, testifies to the confidence we have in our armor. Possibly the difficulties may be of an entirely different character from what is expected.

We naturally look for great advancement in engineering appliances, but does not the attitude of labor toward capital, as evinced in the numerous strikes of the past months, have a significant meaning? Is it not possible that the problems with which we shall deal may be of a social character, of the relation of man to man? But whatever may be their nature, we will bend our whole energy, and meet them like the youth of old, as champions of truth and justice.

The future is stretching forth an alluring hand which draws us on, and, as we go, let us depart as knights, without fear and without reproach.

A QUARTER-CENTURY REVIEW.

[Delivered by President Fuller at the graduation exercises, June 21st.]

Nearly thirty years ago, in the later months of 1864, Mr. John Boynton of Templeton made known to Mr. David Whitcomb of this city, his former partner and most trusted friend, his purpose to devote the major part of the carefully treasured savings of a lifetime to the founding of a school for training for industrial pursuits. His first thought had been to endow an academy at Templeton; then to endow and locate a school at Mason, N. H., his native place. But his friend, a man of rare sagacity, felt that the atmosphere of a country village would compare unfavorably with that of a thriving manufacturing city for such an enterprise and, after some weeks' reflection, suggested that Worcester would be a better location. The result of the conference of the two men was that Mr. Boynton offered to locate in Worcester county, provided others would co-operate with him in furnishing buildings and equipment.

Mr. Whitcomb had in January, 1865, consulted with his pastor, Rev. Seth Sweetser, concerning the best detailed plan for the use of these funds. Dr. Sweetser had already large experience in educational affairs, especially as trustee of Phillips Andover Academy and Seminary since 1850.

Mr. Whitcomb also took into his confidence Hon. Emory Washburn, President Hill of Harvard and Mr. Joseph White, secretary of the State Board of Education. Very early Hon. Stephen Salisbury was privy to the plan. On the 6th of March, 1865, invitations were quietly sent out to thirty of the leading citizens of Worcester, asking them to meet at the office of Hon. George F. Hoar to consider the proposition of the unknown benefactor. At that meeting Messrs. Hoar, Sumner Pratt, Albert Curtis, Abraham Firth, J. M. C. Armsby and Stephen Salisbury, Jr., were appointed a committee to solicit subscriptions. The first public announcement of the matter was made in the *Worcester Palladium* of Wednesday, March 29th, 1865, as follows: "A gentleman, who for the present withholds his name from the public, offers a fund of \$100,000 for the establishment of a scientific school in Worcester, upon condition that the necessary land and buildings shall be furnished by our citizens."

Twelve thousand dollars were at once subscribed, and Deacon Washburn later proposed to erect and equip a shop at a cost not to exceed \$10,000. Fifty thousand was deemed necessary. For several reasons subscriptions came in slowly. First, it was deemed wise by those in charge of the project to test the interest of the citizens of Worcester in the project. If it could not be made popular, it could not succeed. Secondly, there were many distractions and uncertainties in those days.

The financial and business outlook was, as it is today, an anxious gaze upon troubled waters. On March 1st of that year, gold was sold at 202, 7.80 U. S. bonds were below par and cotton was eighty-five cents a pound. March 30th gold was down to 148. In four days the fall of Richmond was announced, on April 9th, Lee surrendered and, six days later, President Lincoln was assassinated. The condition of the country absorbed attention, and for a moment the outlook for all the future was as black as night. But the end of the civil strife was an encouragement. Stimulus was also given by the founding, about that time, of similar enterprises elsewhere. The Massachusetts Institute of Technology had begun its work in a private house in Boston in February of that year, and had in March applied for an amendment to its charter allowing it to hold property, the income of which should not exceed \$30,000. The gift of \$500,000 by Mr. Ezra Cornell to found a university was announced April 12th.

The bill to incorporate the Institute was in final draft introduced into the Legislature April 26th. It was approved by Gov. John A. Andrew May 9th. (Hon. A. H. Bullock was then speaker of the House and Hon. Jona. E. Field, president of the Senate.) On that day \$30,000 had been subscribed. I have here the original subscription paper. It includes the offer of a lot of land at the junction of Grove and Salisbury streets for a site, on the grounds now occupied by the State Armory. Mr. Boynton had at first stipulated that a building should be erected by the first of May, 1867, but the time was afterwards extended. He had confidence that the enterprise would succeed. "The aim of this school," he says, "shall ever be the instruction of youth in those branches of education not usually taught in the public schools, which are essential and best adapted to train the young for practical life."

The corporation of the Institute was organized June 3d. Stephen Salisbury, 2d, was chosen president; Phineas Ball, then mayor, secretary, and David Whitcomb, treasurer. At the same meeting, with respect to the letter of gift and instructions from John Boynton, Esq., it was "Voted, that the same be adopted and accepted as the terms upon which the donation of \$100,000 is made, and that a substantial compliance therewith be considered the condition upon which said fund is to be held and managed." This fund was already in the hands of the newly-elected treasurer, but on the books of the Institute is entered as received May 1st. Two facts concerning the original securities and later administration of the fund are worthy of notice: that some of the original securities are still in the hands of the treasurer unchanged; that the appreciation of securities and changes in investment, together with the natural income, made the growth of the fund in two years over \$24,000.

This accumulation, by a later communication from Mr. Boynton, was set aside as a library and apparatus fund. On June 26th it was announced that \$10,000 was still lacking, and the *Daily Spy*, with its usual

public spirit, as it had done more than once before, published a strong appeal to the citizens to complete the subscriptions. The carriage-makers responded in a body, and sent in July 1st \$241. Other workmen in twenty or more shops followed their example, and on August 5th the aggregate was announced as \$50,691, from about five hundred givers. This was exclusive of the gift of Mr. Washburn for a machine shop. The sum was afterwards increased by further contributions, \$10,000 from Mr. Salisbury, and accumulated interest, to \$70,987, and on September 18th, 1865, Mr. Salisbury offered the lot of land of five and one-half acres on which the Institute buildings now stand. This sum, and \$4,000 besides, was applied to the erection of Boynton Hall, to furnishing and to the grading of the grounds. This grading, begun when the whole hill was covered with a dense wood, was done with rare taste and good judgment, under the direction of Mr. Vaux of New York, and to-day the Institute grounds, with its green slopes, its variety of shrubbery, blossoming afresh almost every week from early April till the summer vacation, is a delight to the eye and an important factor in the educative influence of the Tech hill.

On the second day of November, 1866, the building committee, consisting of Messrs. Whitcomb, Hoar, Lincoln and Morgan, was appointed, and on the 11th day of November, 1868, Boynton Hall was dedicated and the real work of the Institute formally inaugurated. The Washburn Shops building was erected, but not at that time equipped. The records of that event are already in print, so that I will not repeat them. None of the gentlemen who took part in the exercises of that occasion are now living, except Hon. George F. Hoar, who is the only living survivor of the original trustees. Of the first instructors there are three, Messrs. George I. Alden, George E. Gladwin and M. P. Higgins, present to-night.

These have rounded well the quarter-century which has elapsed since, and are in their prime of service. We might well, were there time, pause here to speak of the brilliant and versatile, the honored and greatly lamented first principal, Dr. Charles O. Thompson, who was for fourteen years the executive head of the Institute, and who was eminently fitted by his tact and courtesy, his quick perceptions and his power of easily adapting words and work to new relations, and by his successful experience as an educator, to conduct the proposed experiment.

That the distinctive features of the Institute were regarded as experimental, even after three or four years' trial, appears from the catalogue of 1871-72. After mention of the causes of failure in previous efforts to combine manual labor with school work, one cause was shown to be that the attempted work had been allowed to degenerate into play. The aim and methods employed, as now understood, were then set forth, but it was added: "The whole scheme must be regarded as an experiment in American education, which, at the present stage, is sufficiently promising to warrant its further prosecution."

Those first years were years of organization and rooting. The conditions of admission were the common English branches and Algebra to quadratics. The courses of study were originally six, and each covered three years. Practice began at the middle of the first year and was all done afternoons from two until six and Saturday morning from eight to twelve.

The first apprentice class entering for the extra half year's work in shop and drawing was admitted Feb. 20th, 1872. It consisted of fifteen members. It never exceeded nineteen till 1882, when the enlarge-

ment of the shops permitted the admission of twenty-five.

In 1885 the number was increased to thirty-two, in 1890 the limit was removed, and in that and the following years, till the four years' course was adopted, the numbers were forty-two, fifty-two, sixty-three, sixty-eight. The advertising of a limit in respect to numbers was always a hindrance to growth. Many, who otherwise would have applied for admission, would not try the examinations, when success in them was not to make sure of entrance.

During all this period of experiment and of financial struggle, while the community around watched and waited and sometimes criticised, the Faculty held on unflinchingly to their plan and methods, and the Trustees abated not a jot or tittle of their confidence in the ultimate success of their general scheme. Not to mention some who are now living and others still who are among the unseen, it has seemed to me that, to three or four of the original trustees, the Institute is very largely indebted for its secure establishment and broad foundation. Mr. David Whitcomb brought it to Worcester and was for eleven years its treasurer. His sagacity and thorough acquaintance with practical affairs, and his unswerving integrity, were the basis of Mr. Boynton's confidence in him, when the latter entrusted to him almost his whole fortune without receipt or security. And of that, I think, he spoke with more pride than of any other event of his life. Dr. Sweetser and Dea. Washburn outlined the plan of work of the Institute, aided by the suggestions of Gov. Emory Washburn, while Mr. Salisbury, the first president of the Board, a fast friend of all the others, stood ready to encourage and generously support any public enterprise in respect to which they were agreed. The Institute was fortunate in its other counsellors and the aid they afforded, in the acuteness and breadth of Mr. Hoar, in the genuine and generous interest of Messrs. L. J. Knowles and P. L. Moen, and in the practical wisdom and large mechanical experience of Mr. Ichabod Washburn and Mr. C. H. Morgan. They were not the men to put their hands to the plow and look back, to be discouraged by a temporary east wind, to hang upon the gaze of popular favor or disfavor, or to make a promise and then shirk its fulfilment. Dea. Washburn's \$10,000 for a shop grew to a more expensive building, with \$5,000 for equipment, \$50,000 for its endowment and \$30,000 besides for the general purposes of the Institute. Mr. Whitcomb more than once drew his check on his own private account for the payment of the deficit of current expenses, joined Mr. Salisbury in bearing half of the cost of the additions made to the shop in 1881, and in the same year gave \$20,000 to the general endowment. His good sense and the unstinted time he gave to the Institute were worth more to it than his weight in gold. His rugged face hid a tender heart. He had sympathy with boys who were working their way, and was one of the two or three men, Mr. P. L. Moen was another, who said to me, "If you know of those needing aid and to whom a loan or a gift would be a relief, let me know." Mr. Salisbury's gifts grew with the need of the Institute. First, the site, twice enlarged by additions, and \$22,000 for the original building fund, then the graduates' aid fund, in order, as he said, "that rich boys might have equal chances with poor boys." He gave liberally for endowment, but with this purpose (I quote from his own lips): "I have wished and given my money that the school might not be a merely local institution. It will be better if it has a broader patronage." At his death his aggregate gifts had

amounted to nearly a quarter of a million of dollars. As President of the Corporation, he gave to the Faculty a most cordial support, and to struggling students substantial sympathy. Some students once complained to him of discipline that was partial, some one uncaught had gone unpunished. "Yes, young gentlemen," was the laconic reply, "we always punish those we catch." That was the end of the appeal.

After nearly fourteen years of efficient service, Dr. Thompson resigned to accept the presidency of the newly-established Rose Polytechnic at Terre Haute, Ind. (He was then eight months abroad, had successfully inaugurated the work of that institute and continued it about a year, when he died, lamented by a wide circle of friends, both in Worcester and in his new home.) The Institute had begun to recover from the effects of the financial depression of 1873-7. Its students were increasing and there was good demand for its graduates. But income from its invested funds had been gradually diminishing through decreasing rates of interest, and most of the original State fund had been expended in equipment of the school and shops, and in meeting the deficit of current expenses. Receipts from tuition up to this date had never been quite \$6,000 annually.

The laboratories in Boynton Hall were straitened and unsuited for their purpose; there was no library, except the few books in the office, nor was there room for one. It seemed impossible that the school should grow much farther without ampler quarters, and it could not be continued without debt. There was published in the early summer of 1883 a statement of the work and the needs of the Institute, the suggestion of a plan for enlargement, and the appeal to the public for the requisite funds. It was proposed to extend Boynton Hall forty-five feet on the west, and to build a chemical laboratory on West street (where now it is planned to erect a new engineering laboratory), and to increase the endowment. The project was successful, only in securing a part of the desired endowment. This relieved for a little the most pressing necessity. It furnished income for current expenses. The wisdom of extending the time of the course of study was also discussed. But this scheme slumbered for lack of funds. A part of the basement was fitted up as an annex to the physical laboratory, and here Prof. Kimball, whose work at the Institute began in 1870, set up his dynamos, using power from the shop. In 1886 the second State grant of \$50,000 was made. This reinforced the endowment, only the income being available for current expenses. Meanwhile there was a steady growth in numbers—only one year, 1886-87, showing any abatement of the rising tide—and Boynton Hall became crowded as a bee-hive.

The quarters for Chemistry and Physics grew to be entirely inadequate, and there was no place for test-work in Mechanical Engineering. At this critical juncture Stephen Salisbury, Esq., whose interest in the Institute dated from the very inception of the enterprise, on April 20th, 1887, made a communication to the Corporation, which began as follows: "I am anxious to assist, by placing at the disposal of the trustees the sum of one hundred thousand dollars, to be expended by them in the erection of a suitable building to contain laboratories for mechanical, physical and chemical science." A more wise, timely or fruitful gift than this was never made to any institution. It gave opportunity to broaden the scope and purpose of the training given, it cheered despairing instructors, it attracted students. For once, the pro-

fessors who were to occupy it had free range to plan the interior of a new structure; the architect must be content to assemble their arrangements. Yet Mr. Earle was as happy in this as he could be, no more exhibiting impatience or asserting inability to adopt suggestions, than he did when making the plans, pretty much in his own way, for the earlier Boynton Hall, for the Art Museum at Norwich or the beautiful Central Church of our own city. The corner-stone of the Salisbury laboratories was laid, with appropriate ceremonies, June 2nd, 1888; it was completed barely in season for occupancy in the autumn of 1889.

I had almost forgotten to mention the pretty magnetic laboratory erected at the foot of Tech Hill in 1887. This is also an architectural gem, one of Mr. Earle's, although Prof. Kimball is responsible for the interior of it and Mr. Salisbury included the expense of it in his donation. Mr. Salisbury, also, assisted by Prof. White, deftly extended Mr. Vaux's arrangement of the older part of the grounds to the newly graded portions.

The equipment of the Salisbury laboratories was slower than the erection of the building, and it is not yet entirely completed. But in 1892 Mr. Salisbury had paid for this equipment \$22,750 additional to the original gift of \$100,000, and had also the previous year caught quickly a suggestion of a member of the Faculty and given and graded the beautiful slope of the Institute grounds south of the old "Jo Bill" road. In the summer of 1889, after Prof. Kinnicutt had moved his bottles and tins, and Prof. Kimball had donated to Prof. Alden the Fairbanks testing machine and had thrown in the thermo-dynamics, and the trio were well established in the laboratories, there was a memorable cleaning and overhauling in Boynton Hall. Mr. G. Henry Whitcomb offered to defray its expense, but Mr. Salisbury had a little interest in the Institute yet left over, and proposed to share the bills for the sake of company. At the end of the summer, when they had done, there was, besides other needed repairs, a shelved library and reading-room, a private office, a civil engineer's drawing-room and recitation-room for that department, a mineralogical laboratory and cases for specimens, handsome lavatories and lockers for two hundred and thirty students, and new steam-heating apparatus. The work was done at an expense of \$12,840.

In the summer of 1892 the Washburn Shops had become too crowded for convenient use, and there was not room enough for new machinery needed for the growing classes. Recitation-rooms were also insufficient in number. Accordingly, it was determined to erect the later addition to the shop, a building 100x51 feet and four stories in height. The work was begun in June and completed in December. The basement furnishes a fine forge-room, the first floor an extension of the machine shop, the second floor a commodious wood-room and the third a fine freehand drawing-room, with adjacent model and blue-print rooms. And now, in five years from the time when it really burst its first shell, notwithstanding floor space had been increased 150 per cent. in that time, the Institute is forced, both through the growth of numbers and through the increasing demand for engineering, laboratory, experiment and investigation, to plan for another building, 100x52 feet, and a power plant besides, to be located west of the Washburn Shops, and a hydraulic testing plant.

So much may be said concerning the habitations and utensils of the Institute recently provided. There have also been changes in the course of study. That in architecture was dropped after the first class grad-

uated in 1871, lack of funds here and the better illustrations of the work in large cities making its continuance inexpedient. There was a course of practice in drawing till 1888, when the superior advantages offered at the Art Museum and Lowell School of Design in Boston could not be competed with. A course of physics was announced in 1875, but in 1888 it was dropped. Its work in a broader form re-appeared in the graduate course in electrical engineering, which was established in 1889. In 1890, the general scientific course was offered, and in 1892 the undergraduate course in electrical engineering. The courses in chemistry, and in civil and mechanical engineering have been contemporaneous with the life of the Institute. The students in the last named course have constituted by far the largest portion of most of the classes; in those of 1872 and 1876 the civils predominated. The terms of admission to the Institute remained the same from 1868 to 1884. They have since been advanced by more English and Algebra, French and both plane and solid Geometry. That is, fully three years of high school work, at the least, are now requisite for preparation, where formerly one year following a high grade grammar course was sufficient. Says Col. Carroll D. Wright, in his comparison of the work of institutes of technology, just published for 1892: "The Worcester Polytechnic Institute, though sometimes classed with schools of manual training, is virtually an institution of college rank. The requirements for admission to the lowest class are fully equivalent, except as to Latin and Greek, to the standard of entrance examination in the best New England colleges."

The changes within the courses of study are noteworthy. Since 1882 there have been added involutional geometry, advanced French, and more physics for all courses; steam engineering, engineering laboratory and hydraulics for civils and mechanics, large substitutions of special topics in chemistry for the advanced mathematics formerly given in this department, and a choice in the senior year between shop work and electricity. The total number of recitation divisions has doubled. In 1882, the number of professors was seven, of instructors two, assistants one; in 1894, professors and assistant professors thirteen, instructors eight, assistants five, exclusive of all instruction in shop. In 1882, the number of students was one hundred and twenty-one, in 1894, two hundred and fifty-seven; total income in 1882-\$3,24,000; in 1894, \$53,000, exclusive of income of tuitions carried to shop account. The total endowment fund in 1883 was \$408,000; in 1894, \$552,000, or, including the recent State grant, over \$600,000, exclusive of cash balances.

Since July 1, 1883, the Institute has received \$142,000 for endowment and \$198,000 for buildings, repairs, equipment, library, and special gifts for current expenses.

The funds of the Institute have been wisely and conservatively invested. The market value of its investments, May 15th of this year, was equal to the cost of those investments, and \$20,000 above the par value of the funds. During the past year of financial stress and depreciation, the aggregate dividends and interest on investments have been only \$200 less than the year preceding. It has been clearly proved here, as elsewhere, that, on the whole, no funds are better cared for or longer endure than those entrusted to educational institutions. In the earlier part of the decade just closing, it became apparent that a free school for an unlimited number could not be maintained. Either the total number of students must be limited or

the free tuition must be limited. The gifts of the largest benefactor of the Institute—the elder Salisbury—contemplated a wider than local benefit from the funds. Hence, in 1889, it was determined to allot the entire income from the Boynton fund in thirty-five scholarships for Worcester county. These, with the State and district fund scholarships, made thirty-six in all. This step, bitterly opposed by some at the time, has enhanced the estimate of the Institute's training. It was averred that the change would sound the death knell of the work; as a fact, the number of students increased steadily. What costs is prized; what is given is often, like food bestowed on tramps, thrown away. No more than before has any needy and really promising student lacked aid from some quarter.

The most difficult problem, recently presented in the practical administration of the Institute, has been how to find time for the new work which the continual fresh discoveries in the arts and the new applications of science rendered necessary. Sixty hours of assigned work weekly were found to be more than the average student could be firmly and thoughtfully held to. We came up to that limit, and then decided, Faculty and Trustees, in November, 1892, that all courses of study should be four years in length. The scheme drawn comprised additional applied, especially laboratory, work in senior year, and set fifty-two hours as the average weekly task. Its operation the past year has proved eminently satisfactory. There is a limit to human endeavor. The bow, sprung too far, snaps. There is no compensation under heaven for the loss of that elasticity of spirit, which, rather than grace of face or form, is the charm of youth. The education that is wise, though it involves drudgery and digging, makes no mere drudges or machines. Yet it must stretch the man or it is useless. If the bow is not sprung, the arrow never flies to the mark. The same thought applies to teachers as well as to students. The instructor who does not outstrip himself sets no good pace for others, but if the work is too heavy it suffers in quality. The professor, in his class or lecture room, should be at his best, but if he must be there all the time, he cannot always be at his best. The average hours of instruction, given at the Institute per man, are half more than are generally given by college professors, in some cases double, and have often precluded the scholarly research and patient investigation in which it would have been a delight to engage. While most of those who have wrought in the heat and burden of the day are vigorous for further service, I cannot forget that two or three valued instructors have fallen by the way. One, Mr. A. H. Chapin, died June 5th, 1880; another, Prof. T. E. N. Eaton, in June, 1891, after nineteen years of excellent service, retired with shattered nerves and throbbing brow to the more genial climate of California. The third, Prof. E. P. Smith, after twenty-two years of most faithful instruction, died May 12th, 1892, as suddenly as the stretched wire snaps in the testing-room. If he spared not others, he never spared himself, and he lived and toiled long enough to see the department he opened firmly established, recognized as an essential and indispensable part of any course of study, and acknowledged by graduates to be as practical as any feature of the Institute training.

And of all the instructors of the Institute it may be truly said that they have devoted themselves, mind and soul, to their work, and have made it their pride and delight.

What that work really is—to have daily and almost

hourly contact with young, fresh, vigorous life, full of ambition, hope and promise, to watch the change from boyhood to manhood, to see seed sown slowly germinate, take root, grow and mature, to discern impulsiveness give way to self-control, self-confidence to thoughtfulness, self-assertion to search for truth, to feel responsiveness, or questioning, or doubt, or sometimes distrust or opposition, to be drawn into sympathy with the difficulties, the perplexities, the aspirations and the endeavors of those before you so constantly, to witness the result of wrestling with those difficulties, the stimulus of a noble purpose and the fruitage of persistent industry, to realize that in this daily intercourse each life becomes a part of your life, and your life a part of that other life—no man knows that work who does not engage in it, and he that does know it cannot tell it to another.

Thus I have endeavored to show that the quarter-century just closed, while a period of almost continuous growth, may be fairly divided into two epochs—one, of organization and experiment; the other, not less difficult or important, of reorganization and adjustment. I confess my inability to do justice to the earlier epoch. I know it chiefly as a tradition, and I know its fruit. I trust I have not bedimmed it.

I am sure, however, that in the later epoch there has been not only growth of numbers and increase of resources and equipment, but a broadening of the general policy of the Institute, an enlargement of its scope of work as demanded by the times, more flexibility in its methods and a better adaptation of its training to individual needs. But the same adjustment must continue. For what in method, scope and proportion is good to-day, will, like the clothing of a growing boy, to-morrow be outgrown. The Institute of this year, measurably successful in what it has undertaken through the sagacity of its founders, and somewhat uniqueness of its plan, the success given to it from time to time by the Trustees and by the State, and especially through the untiring and self-sacrificing labors of those who have immediately administered its affairs, led its counsels, solved its problems, and with pains and skill and patience wrought upon both experiment and transformation, will, in the coming years, if generously supported, wisely governed and unselfishly labored for, continue to be one of the chief ornaments of the city, become still broader and more beneficent in its influence and prove to all the youth of this region an unspeakable and enduring blessing.

BASE-BALL SKETCHES.

Base-ball at the Institute for this year is over, and a brief sketch of the players who have composed the team may not be uninteresting to many of the readers of the W P I.

Frederick J. Zaeder, who has so efficiently captained the nine this year, is one of the best ball-players in the city, and, in fact, few college nines have a better first-baseman than is Zaeder. He has had much experience playing first base, having covered that bag for the Worcester Athletic club and Worcester High School, which team he captained for one season. His knowledge of the game is very thorough, and, as coach and captain, he is the best the Institute has had. He is a sure fielder and a heavy, although a rather inconsistent, hitter. As

Zaeder next year goes into the Junior class, he will undoubtedly captain the team for another season. He is a good man in general athletics, and at present holds the Institute high-jump record. Last fall he played half-back on the eleven for a portion of the season, but was troubled with a weak ankle. He is stocky-built, stands five feet eight inches, and weighs one hundred and seventy-one pounds.

George C. Gordon has made an enviable reputation for himself, as manager of the nine. He started in with a debt of one hundred and twenty-five dollars on his hands; he ends with no debt and a fair surplus, and this in the face of poor support from many of the men here.

In addition to his duties as manager, Gordon has played centre-field during the entire season. He has played on many local teams, and for three years has played on the W. P. I. team, captaining it last season. He is a sure fielder and fair hitter, and covers a large amount of territory. Like Zaeder, he, too, has an intimate knowledge of base-ball and its fine points, and in this respect has aided his captain greatly. Gordon is a good long-distance runner, winning third in each of the three runs held in the fall of '92; was also half-back in last year's polo team. He is five feet eight and one-half inches in height, and weighs one hundred and thirty-three pounds.

George L. Philpot, universally known as "Phil," is the foxiest man in the team and plays ball every minute, from the time the first ball is pitched until the last man is retired. He is a sure hitter and can generally make a hit when most needed. It does not take him long to "size up" a pitcher and he is seldom fooled, having struck out but twice this year. Last year saw him behind the bat, but his regular position is second base, where he has played for the greater part of the season. His work early in the year was ragged, but he soon picked up and at its close was playing in fine form and covering much territory. He weighs one hundred and fifty-five pounds and stands five feet seven inches. He captained the polo team last winter, is something of a sprinter, and has played ball since a "kid."

Edward L. Cullen, '96, played on the Institute nine regularly this year for the first time, although he is by no means new at the business. "Cull" played short stop this year and is a quick thrower. His fault, however, is that he does not run to meet the ball but waits for it to reach him. He seldom fumbles and can throw home to perfection. Previous to this year, his weak hitting told against him, but under Zaeder's coaching he has, in a great measure, overcome this fault. His height is

five feet six inches, and his weight one hundred and twenty-six pounds.

Frank E. Knowles is another Ninety-Six man, and a born ball-player. He played third on the nine last year, which was his first year in that position, his preference being for second. He, however, did so well there that he was compelled to play there again this season. "Ching" has his off days in batting, but that fortunately does not affect his fielding. He makes a specialty of throwing balls and likewise high foul flies. In a recent game he had the misfortune to break his collar-bone, thereby throwing him out for the remaining games. He has, however, recovered and assures his friends he will be on deck next spring. He played rush in the polo team; he tips the scales at an even hundred and fifty, and stands five feet eight inches.

C. Raymond Harris, '96, fills the position of right-fielder and is a clever player, although given to "circus" catches. He is a good batter, standing second on the list. He played on the nine last year, but with indifferent success. He has proved himself a valuable man in foot-ball playing and played good in polo. He weighs one hundred and fifty-three, and is five feet ten inches in height.

Ralph F. Bunker is the left-fielder and has proved himself a veritable find. He let ball severely alone last year, but appeared this year in the rôle of a star and easily made the team. He is very sure, but does not cover as much ground as he should, and is rather a slow runner. His batting has been extremely good and timely. He has played before on the Milford High School nine, which place is his home. One hundred and sixty-eight pounds is his weight, and his height is five feet ten and one-half inches.

Fred M. Martin hails from a little town in northern New Hampshire, and has proved himself to be a pitcher of no mean ability. This is his first year at pitching, but his work would do credit to a much older man. His delivery is peculiar and a puzzle to opposing batsmen. He has good speed and excellent control and never tires, as shown by the fact that he pitched two winning games in one day. Fortune has favored him the entire year. His only fault is poor hitting, but his work in the box compensates for that.

Thomas S. Fisher, '96, is another find, that is, in his present position of catcher. He has played third base for many years on the team of his native town, but never essayed to catch until this year, when Zaeder's distress troubled him, and he stepped up to do or die. It is needless to say, he *did*. His work as back stop

has been excellent. Fitch is coolness itself and his only weakness is high foul flies. He played foot-ball on the second eleven. He weighs one hundred and seventy-five.

Alba H. Warren, '95, played on the nine the past two seasons, but injured his hand last winter, making practice impossible until the middle of May. His work soon secured him the position of substitute. He is a good hitter and a fair fielder, and is at home in the in or out field although his preference is for short-stop. He was quarter on the eleven at the close of last season, and played rush on the polo team. He weighs one hundred and twenty-nine.

Below is given a complete table of the batting and fielding averages of the team in the ten games they have played this season.

BATTING.

	A.B.	R.	B.	T.B.	B.A.	T.B.A.	S.H.	S.B.
Zaeder, 1b.	36	18	16	27	.444	.750	2	26
Harris, c. f., r. f.	39	9	12	12	.307	.307	3	10
Bunker, l. f. ...	44	11	13	14	.295	.318	1	15
Philpot, s. s., 2b.	40	19	11	14	.275	.350	1	17
Knowles, 3b. ...	39	12	10	14	.256	.359	3	8
Gordon, 3b. c. f.	41	15	10	15	.244	.366	1	19
Cullen, 2b., s. s.	35	12	8	9	.228	.257	3	11
Fisher, c.	30	12	6	6	.200	.200	1	4
Martin, p.	34	6	4	5	.118	.147	2	1
Five others, r. f., c., p., 3b., s. s. }	18	4	5	5	.277	.277	1	7
Totals	356	118	95	121	.264	.333	18	118
Opponents	338	44	73	86	.216	.254	7	51

FIELDING.

	CHANCES.	P.O.	A.	E.	F.A.	S.O.	B.B.	HIT
Zaeder, 1b.	100	93	4	3	.970	6	12	2
Fisher, c.	81	56	18	7	.941	4	3	5
Harris, r. f., c. f.	11	9	1	1	.909	2	4	1
Bunker, l. f.	15	12	1	2	.866	7	5	1
Philpot, s. s., 2b.	52	26	18	8	.846	2	9	0
Knowles, 3b.	50	21	21	8	.840	10	3	1
Gordon, 3b., c. f.	25	15	6	4	.840	3	10	0
Martin, p.	24	4	16	4	.834	7	1	2
Cullen, 2b., s. s.	30	7	17	6	.800	4	6	1
Five others, p., c. 3b., s. s., r. f. }	17	6	10	1	.941	3	2	0
Totals	405	249	112	44	.856	48	55	13
Opponents	438	233	115	90	.795	42	16	7

In batting, Captain Zaeder comes first with an average of .444 and a total one of .750, which is indeed a high one. The rest of the team are fairly well together, with Harris slightly ahead. Martin brings up the rear.

Zaeder also has the greatest number of stolen bases to his credit, he having stolen nine in one game. Had he commenced to steal with the first game the number would be even larger. Gordon comes second with nineteen, while Martin, as in batting, is last, having a single stolen base credited to him.

In fielding, Zaeder naturally leads, with a per cent. of .970. Fisher's work behind the bat

far as second. In the ninth, a hit and another has also been excellent, as his average of .941 indicates.

Knowles has struck out more times than any other player, while Harris and Philpot share the credit of having struck out but twice.

Zaeder has reached first on balls twelve times, Gordon and Philpot, ten and nine respectively. Martin did not reach first but once on balls.

Fisher seems to have been the man to have suffered more than any one else by being hit. Still he seems no worse for it.

A comparison of our play with that of our opponents is interesting. Tech has been to the bat but eighteen more times than her opponents and has secured seventy-four more runs, which in ten games is considerable. The batting average of our opponents was .048 less. Tech secured one hundred and eighteen stolen bases to fifty-one.

In fielding, our opponents have had thirty-three more chances, and yet they did not accept as many by forty-six.

W. P. I., 6; TUFTS, O.

On Monday, June 11th, the ball team went to Boston on the 10:50 train, the objective point being College Hill, where the team was to play the Tufts College nine that afternoon. Arriving in Boston, dinner was had and a train for College Hill taken. On seeing the college grounds one cannot but be most favorably impressed with the surroundings. The grounds are large; the buildings, many and substantial. But one of the most attractive features is the broad expanse of green lawns stretching forth on every side and giving a most charming beauty to the place. It was excessively warm that day, but the breeze that blows across the grounds was cool and delightful, blowing, as it does, directly over the reservoir that is on the grounds, within a stone's throw of dormitories, and which supplies the surrounding towns with water.

But to return to the game. It was a pitcher's contest from the start, but Martin received better support and pitched just a little better ball than did the Tufts man, and so Worcester won. But it is not alone to Martin that Tech won. Philpot played great ball and had he not backed up first on every hit to the infield Tufts would have scored a run. Again in the ninth, with two out and three men on bases, it rested with Philpot whether the side should be retired or a couple of runs scored, which would make victory more certain. "Phil" was equal to the occasion, and made the hit which brought in two runs and resulted, indirectly, in the scoring of three others.

Gordon, in centre-field played an excellent game, making two difficult catches of line drives. Richardson at third, and Crolus in the box, did the best work for the home team, while Mac Kensie and Armstrong were decidedly off color.

Tech was first at the bat, and Philpot the first man to face Crolus. He waited for his base on balls and soon after appropriated second base. C. Gordon, who played third base in Knowles' place, sacrificed, advancing Philpot to third, but there he remained, for Zaeder struck out and Gordon hit to the infield.

The second inning proved to be productive of a run. Bunker waited for four balls that did not cross the plate, and so "walked". He stole second, but it was unnecessary, for Cullen was also presented with first. Harris then struck out, but Fisher made a hit, advancing the base runners a base. Crolus struck Martin out and likewise Philpot, but in the meantime a short passed ball allowed Bunker to bring in what looked, until the last inning, to be the only run of the game. In the third, Geo. Gordon reached first, and went to third on a wild throw. Two men were out at the time, so when Bunker flied out to right, all chance of scoring in that inning was lost. Zaeder reached first through Crolus' kindness in the next inning, but although he stole second he got no farther, for two had already been retired and Gordon's hit to Crolus made the third out. No Worcester man reached first in the sixth, but in the seventh, after Fisher had been retired by Richardson, and Martin struck out, Philpot made a hit and stole second. The throw to second was muffed and Philpot reached third before the Tufts men had realized it. Chas. Gordon retired the side by sending a fly into Smith's hands. The eighth was a repetition of the sixth; the ninth, however, was different. With two out Harris went to first on balls and stole second. Fisher was hit, and Martin shared a similar mishap, advancing the others a base. Philpot was equal to the situation and got in a hit, sending Harris and Cullen across the plate. C. Gordon's hit brought in Martin and Philpot, and Gordon, in turn, secured the last run on his brother's three-bagger.

For Tufts, Mallet reached second in the first inning on his hit and steal, but he was left there. No Tufts batsman saw first again until the fifth, when, with one out, Cullen's wild throw of Richardson's grounder enabled that player to get as far as third. The next two men were retired. Mallett reached second again in the seventh on a base on balls and a successful steal, but it availed nothing, for the next three men were easily retired. Mallett seemed especially fortunate in the matter of getting as

steal did it. He was however run down between third and home by Gordon and Fisher. Thus in the nine innings but thirty men faced Martin.

The score in detail :

W. P. I.

	A.B.	R.	B.	P.O.	A.	E.
Philpot, 2b	4	1	2	3	2	0
Warren, 3b	5	1	1	2	2	0
Zaeder, 1b	4	0	0	10	0	0
Gordon, c. f.	5	0	1	3	0	0
Bunker, l. f.	4	1	0	2	0	0
Cullen, s. s.	3	0	0	0	2	1
Harris, r. f.	3	1	0	0	1	0
Fisher, c.	3	1	1	7	3	0
Martin, p.	3	1	0	0	3	0
Total	34	6	5	27	13	1

TUFTS.

	A.B.	R.	B.	P.O.	A.	E.
Armstrong, c. f.	4	0	0	0	0	2
Smith, l. f.	4	0	0	1	0	0
Mallett, c.	3	0	2	8	1	0
Maguire, 1b	3	0	0	15	0	0
Hill, s. s.	3	0	0	0	0	1
Richardson, 3b	3	0	0	0	5	1
Saunders, r. f.	3	0	1	1	0	0
Crolius, p.	3	0	0	2	5	0
MacKensie, 2b	3	0	0	0	2	1
Total	29	0	3	27	13	5

W. P. I.	0	1	0	0	0	0	0	5—6
Tufts	0	0	0	0	0	0	0	0—0

Earned run, W. P. I. 1; three-base hit, Gordon; sacrifice hit, Warren; stolen bases, Philpot 3, Zaeder, Bunker 2, Cullen, Harris, Fisher, Mallett 3; first base on balls, Philpot, Zaeder, Bunker, Cullen, Harris, Mallett; hit by a pitched ball, Martin, Fisher; struck out, Zaeder 3, Gordon, Harris, Martin 2, Smith Crolius 2, MacKensie; passed balls, Mallett 2. Time of game, 1 hour 35 min. Umpire, Clark of Tufts.

BURLESQUE ON BASE-BALL.

"Those jays can't play the game a little bit," said a ten-year-old devotee of the national game, as he watched "Zed" Killam strike out for the third consecutive time. He was standing just outside the gate meditating whether he should "put up" the price of admission or watch the game from his present vantage ground. As he was thinking over the pros and cons of the matter, the fire-alarm bells sounded and volumes of dense smoke rising in the west told of a fire close at hand, and the youngster hurried off for Bloomingdale, deciding that a fire, of the proportions indicated by the mass of smoke, was capable of producing more interest than a burlesque upon the American game of base-ball.

Monday, June 18th, was the day appointed for the Senior ball game, and a hot and sultry one it proved to be. In spite of the heat, about thirty Seniors and a few interested spectators boarded the one-thirty dummy for the Oval, where they were to give an exhibition of ball

playing such as is never read about and seldom seen. The Seniors had promised the public three close and exciting games, but when noses were counted it was found that there were but twenty-seven men who essayed to play the game. After much discussion it was decided to play all the men on two teams, and Whipple and Gallagher, as the best players in the class, were selected to pick out the "nines." The men chosen, with a few of the many positions played by each, were as follows:—

Gallagher's "nine": Gallagher c., f., Dwinnell p., 3b., Soars 1b., s. s., Bickford 2b., s. s., Harris 3b., 1b., Eastman p., field, Allen p., field, McFarland p., field, Whitney p., 2b., Hammond p., c., Chambers p., field, Fuller p., field.

Whipple's "nine": Sawyer 2b., c., s. s., Boyden 1b., Abbott c., p., Whipple field, 3b., Killam p., field, Smith 2b., p., field, Palmer p., field, Cobb 3b., p., Nye field, Bishop p., 2b., Linnell p., 2b., field, Goss p., field, Howland p., field. The score by innings:

Gallagher's 2 5 8 2 0 0 0 4 —21
Whipple's 0 0 4 5 3 7 0 0 —19
Time, 3 hours. Umpires, Charles A. Burt and Walter E. Hapgood.

Hapgood and Burt were chosen as umpires, one on bases, the other on balls and strikes. After the second inning it was decided not to have balls and strikes called and so the two umpires officiated in the field. There was considerable kicking against their decisions, but still they went, and it is true that they knew more base-ball than the men who did the most kicking. The pitching was a feature of the game and would have done credit to the Worcester team. But everything went and the contestants seemed to enjoy the fun immensely, as did the five fair females in the grand-stand.

Most of the players were in more or less of a negligé costume. Chambers, however, was the man who cut the most ice, and thick ice it was too. His make-up would have done justice to General Studlefunk himself. To fully appreciate the beauty and uniqueness of his costume, it is necessary to behold it and so we forbear from a description.

After eight and one-half innings had been played, during which three hours of valuable time had been consumed, the score, as kept by official scorer Geo. C. Gordon, was found to be twenty-one to nineteen in favor of Gallagher's team. Whipple and his aggregation were laboring under a tremendous disadvantage for, in addition to partial umpiring, as they claimed, he had but thirteen men and, as thirteen is known to be an unlucky number, it is a wonder they succeeded as well as they did.

At eight o'clock that evening the two "nines" sat down at Rebboli's and enjoyed their fill of creams, ices and cakes at the expense of the losers.

ALUMNI BANQUET.

The twenty-first annual meeting and banquet of the W. P. I. Alumni Association was held Wednesday evening, June 20th, in the rooms of the city Y. M. C. A. The secretary's report of the twentieth annual meeting was read and declared approved. The reports of the treasurer, Edward K. Hill, '71, on the Thompson Memorial Fund and on the current year were read and accepted. Messrs. Billings, '71, Hatch, '73, Keyes, '76, Russell, '76, and Morgan, '90, were appointed a committee to retire and report a list of officers for the ensuing year. The committee reported as follows, and the gentlemen named were declared elected by the secretary casting a ye a vote: Secretary, W. L. Chase, '77; Treasurer, E. K. Hill, '71; Executive Committee, E. F. Tolman, '71, H. W. Wyman, '82, V. E. Edwards, '83, W. W. Bird, '87, H. P. Eddy, '91, Chas. Baker, Jr., '93. The president of the Association will be elected at a subsequent meeting of the officers from the executive committee above named.

The class of ninety-three and J. D. Curtis, '71, and C. W. Saunders, '76, were elected to membership in the Association. It was voted that hereafter the graduating class be invited to participate in the annual dinner at half the rates charged alumni. Heretofore the Senior class have always been the guests of the Association.

At half-past seven the business meeting resolved into a social, and later a company of one hundred and forty-six, including as guests Dr. Merriman and Stephen Salisbury from the trustees, Drs. Fuller, Conant, Kinnicutt and Haynes, Profs. Alden, Gladwin, Higgins and Kendrick, Mr. Robert W. Hunt of Chicago and forty members of the graduating class, sat down to a sumptuous spread served by Rebboli.

Among the alumni present were:

E. F. Tolman, '71,	E. K. Hill, '71,
W. R. Billings, '71,	F. B. Bateman, '71,
G. H. Scott, '72,	J. P. K. Otis, '73,
W. S. Hatch, '73,	U. W. Cutler, '74,
W. Metcalf, '73,	C. G. Washburn, '75,
C. G. Stratton, '75,	G. H. White, '76,
J. F. Kyes, '76,	J. F. Wilson, '77,
W. L. Chase, '77,	H. Ropes, '78,
F. T. Fay, '78,	G. H. Johnson, '79,
A. B. Upham, '78,	E. P. Sparrow, '80,
C. D. Parker, '79,	E. T. Morey, '81,
D. Goddard, '81,	C. A. Earle, '82,
E. A. Williams, '81,	J. H. Mason, '82,
H. F. Klingele, '82,	W. F. Cole, '83,
H. W. Wyman, '82,	A. H. Wheeler, '84,
E. E. Johnson, '84,	G. F. Higgins, '85,
J. G. Aldrich, '85,	W. W. Bird, '87,
W. E. Drake, '86,	F. W. Morse, '87,
E. F. Miner, '87,	C. J. Sawyer, '87,
J. P. Pierpont, '87,	C. B. Smith, '88,
J. B. Chittenden, '88,	A. W. Gilbert, '89,
E. W. Desper, '89,	L. E. Booth, '90,

H. E. Austin, '90,
L. N. Farnum, '90,
P. B. Morgan, '90,
A. L. Smith, '90,
C. A. Davis, '91,
B. A. Gibson, '91,
D. F. O'Regan, '91,
J. F. Rogers, '91,
J. A. Whittaker, '91,
E. H. Fish, '92,
A. H. Smith, '92,
C. Baker, Jr., '93,
J. P. Coghill, '93,
J. A. Derby, '93,
E. A. Gage, '93,
N. Heard, '93,
E. W. Marshall, '93,
H. L. Phillips, '93,
C. O. Rogers, '93,
E. W. Vaill, Jr., '93.

C. H. Jenness, '90,
W. L. Smith, '90,
G. W. Booth, '91,
H. P. Eddy, '91,
F. C. Hodgman, '91,
W. H. Ramsdell, '91,
E. A. Taylor, '91,
F. W. Eastman, '92,
A. B. Moulton, '92,
E. L. Smith, '92,
J. W. Buzzell, '93,
H. A. Coombs, '93,
R. B. Farwell, '93,
C. E. Goodrich, '93,
C. D. Howard, '93,
W. H. Parker, '93,
L. W. Rawson, '93,
Harry Sinclair, '93,
E. S. Woods, '93,

Rev. Dr. Merriman invoked the divine blessing, and after the dinner had been discussed, Chas. G. Washburn called the company together and, at the close of a few well-chosen remarks, introduced Robert W. Hunt, who was called upon to face a hundred living examples of his subject of the afternoon.

The toastmaster in introducing President Fuller said: "We owe much to the Faculty for their faithful unity and devotion. I think I can say that we never can repay the debt that we owe them. Dr. Fuller's resignation to-day brings to mind a record of the careful and painstaking work that he has done for the institution in the past twelve years, and I wish to bear witness to his devotion to the school. I need not renew the scope of work that has been done nor note the growth of the institution. All demands upon him have been faithfully met by a self-sacrificing devotion that is unknown to us, and of which we can have no idea. It is my pleasant duty to extend to him our warmest thanks for his devotion and our wish for boundless prosperity in whatever field he may undertake in the future."

Dr. Fuller was greeted with applause and spoke briefly on the growth of the Institute during the time he had been its president and predicated a brilliant future for the Institute.

W. R. Billings, '71, the oldest living graduate and a member of the first graduating class, was next introduced. He referred to the reunions as most pleasant affairs, where friendships of former years were renewed and new acquaintances formed. He also thought that there was great need at the present day for just such men as this and similar institutions were turning out.

The Senior class was represented by her president, Eugene B. Whipple, who responded to a general question why the Institute did not score at the intercollegiate, and in general athletics was backward.

Other speakers were Prof. Alden, Prof. Higgins, Hon. Stephen Salisbury, Dr. Haynes, Dr. Kinnicutt, Dr. Conant, Prof. Gladwin, Prof. Kendrick and James Logan.

The reports of the following Institute visiting committees were read and accepted: Mechanical Engineering, Miner, '87; Civil Engineering, White, '76; Chemistry, Morse, '87; Physics and Electricity, Kimball, '89; Language and General Science, Baker, '93; Drawing, Smith, '90.

On motion of Heard, '93, the executive committee was appointed to consider the state of athletics here and to do something for their improvement.

NINETY-FOUR'S SUPPER.

This class assembled for the last time for two years, Thursday evening, at the Lincoln House, immediately after the graduating exercises. A business meeting occupied the attention of the tired Seniors for a short time, and then the class, forty-eight strong, sat down to a course dinner and refreshed themselves on the choice viands set before them. The menus were both unique and tasteful. The menu was printed on what purported to be a diploma of the Institute, while opposite the menu proper were printed the toasts, which were as follows:

Toastmaster, CLARENCE W. EASTMAN.

"For nature had but little clay like that of
which she moulded him."

MDCCCXCIV., HARRY S. WHITNEY.

"For we know they will miss us when
we're gone."

The Powers that be, WARREN E. BROOKS.

"We had a noble Faculty,
Composed of many sorts.
We'd atheists and ministers
And weary looking sports."

The Ladies, HENRY N. SMITH.

"Wer liebt nicht Wein, Weib und Gesang,
Lebt er ein Narr, sein Leben lang."
(But no such fools are we.)

The Future, HERBERT P. LINNELL.

"Give me Heaven for climate,
But — for the company."

A Song sans Words, EUGENE B. WHIPPLE.

"There was a sound of revelry by night."

Mr. Whipple's toast was peculiar in that it was not spoken, but rather consisted in a series of off-hand sketches made upon sheets of paper which had been hung along the wall for the purpose. Faculty and student characteristics and peculiarities were truthfully portrayed, and all agreed in saying that it was one of the best toasts of the evening.

Then came the auction, with John W. Soars, Jr., in the box. The class mascot was finally secured by Harry C. Hammond, but not until

an X and a V had been deposited with the treasurer. The class pennant was sold, or rather given away, to L. R. Abbott for \$2.75. The cuts in the class-book were next put under the hammer and brought, on an average, fifty cents each.

The business meeting, adjourned from the beginning of the evening, was then resumed. It was voted to donate the miniature portrait cuts to the individuals whom they represented. Also voted to divide remaining class-books in true communistic style, and each one who had paid up his assessments received four as his share. Also voted to donate the cross-country and class championship banners to Athletic Directors Whipple and Gallagher. The class then voted to elect the following officers, who will serve until the banquet in '96: President, E. B. Whipple; Vice-President, S. B. Palmer; Secretary, H. L. Cobb; Treasurer, W. A. Scott. The meeting then broke up, all tired but pleased with the last event of Commencement week.

THE PHI GAMMA DELTA RECEPTION.

One of the prettiest receptions of the season was given Thursday afternoon by the Pi Iota chapter of the Phi Gamma Delta at their chapter house on Highland street. The entire lower floor and the upper halls were thrown open to the visitors. The parlors were decorated with a profusion of roses and laurel, while in a conspicuous place was an Institute pennant handsomely draped. The dining-room was filled with flowers, the centre piece being a large fraternity emblem, above which dangled a tiny skeleton. College photographs, trophies and pieces of bric-a-brac were exhibited to good advantage and attracted much attention.

The reception was from half-past four to seven, and during that time fully one hundred and fifty guests were received, some arriving as soon as the class-day exercises were over. The visitors were entertained by the members of the fraternity, some twenty in number.

The patronesses of the affair were Mrs. Homer T. Fuller, Mrs. Chas. H. Morgan and Mrs. B. D. Dwinnell of Fitchburg, Mass. W. S. B. Dana, W. E. Brooks and W. I. Baldwin presided over the lunch. The committee having charge of the arrangements consisted of H. J. Fuller, M. P. Whittall and G. W. Eddy.

The Institute was represented by President Fuller and Mrs. Fuller, Dr. A. S. Kimball and wife, Prof. G. I. Alden and wife, Prof. G. E. Gladwin and wife, Prof. U. W. Cutler and wife, Dr. Haynes, Mr. Z. W. Coombs, Dr. Conant and Dr. Moore of the Faculty; Wm. Nelson, R. S. Parks, E. S. Wood, Nathan Heard, and E. W.

Vaill, Jr., '93; H. B. da Cruz, H. N. Smith, C. G. Harris, C. N. Chambers, H. S. Whitney, '94; A. W. Doe, W. E. Hapgood, G. O. Sanford, '95; Theo. Lamson, W. H. Stone, '96.

SENIOR RECEPTION.

On Tuesday evening, June 19th, Horticultural Hall was the scene of a very pretty party. It was the reception given by the class of '94.

About three hundred people were present, comprising friends and relatives of the students, and especially of the Seniors.

The arrangements for the affair were most complete, and were largely responsible for its success. Clifton H. Dwinnell was chairman of the committee, which included George W. Heald and Herbert P. Linnell.

The decorations were very pretty, the walls being covered with evergreen, while roses and other cut flowers were in profusion. Dr. Kinnicutt sent several large bunches of roses. Placed in a prominent place on the stage, and surrounded by palms, was a frame containing the portraits of the class members.

The patronesses were Mrs. Austin S. Garver, Mrs. U. Waldo Cutler, Mrs. C. H. Morgan.

At half-past eight a brief concert was given by Bicknell's orchestra. The programme was as follows: March, "Liberty Bell," Sousa; Overture, "Pathfinder," Müller; Waltz, "Symposia," Bendix; selection, "Poor Jonathan," Millocker; selection, "Orpheus," Offenbach. There was also a cornet solo by Pilet.

After the concert, the orchestra played for dancing, and as the evening proved to be much cooler than the oppressive heat of the day had foretold, the dancing was enjoyed by all. Among the pieces played was a waltz composed by W. S. B. Dana, '97. At half-past ten a bountiful collation was served, Zahonyi catering.

It was nearly one o'clock when the orchestra played "Home, Sweet Home," and when the weary dancers left, they voted it the most successful reception yet given by a Tech class.

Dr. and Mrs. Homer T. Fuller, Prof. John E. Sinclair and Miss Sinclair, Prof. Geo. E. Gladwin and Mrs. Gladwin, Prof. U. Waldo Cutler and Mrs. Cutler, Prof. Geo. H. White and wife, Prof. Arthur H. Kendrick, Dr. George H. Haynes, Mr. Zelotes W. Coombs, Mr. Nathan Heard, were noticed among those present. The ushers assisting the committee were F. W. Parks, A. H. Warren, G. A. Denny from '95; M. P. Whittall, W. H. Cunningham and G. S. Gibbs from '96.

DR. FULLER'S RESIGNATION.

Worcester, Mass., April 19, 1894.

To Hon. P. Emory Aldrich, President of the Corporation of the Worcester Polytechnic Institute:—

My Dear Sir:—During the nearly twelve years that have elapsed since the beginning of my connection with the Institute, there has been a steady enlargement of its resources and increase of numbers of both instructors and students. The attendance registered in 1881-2 was one hundred and twenty-one students; for two years past it has been over two hundred and fifty students. The adoption of courses of study, four years in length in all departments, early seen to be desirable, has, in its trial for the current year, proved even more satisfactory than its most sanguine advocates anticipated. The change permits more thorough and more thoughtful work on the part of the students, and yet the requisitions of the new scheme tax to the full their average resources.

The income of the Institute, exclusive of Washburn Shops account, was for the year 1882-3, about twenty-four thousand dollars; for the current year it will exceed fifty thousand dollars. The average annual expenses of the Institute have been met by its income. Yet new buildings have more than doubled available floor space, and equipment of apparatus and libraries has been increased in every department from two- to five-fold in value. Partly by purchase, partly by my individual collections, supplemented to some extent by gifts of graduates and others, there has been secured a very choice and valuable cabinet of about four thousand specimens of minerals, and there has been gathered considerable material for illustration of petrology and stratigraphic geology.

The recent additions to the Washburn Shops and the State grant just made for a new mechanical and hydraulic laboratory will, when fully utilized, afford very complete and symmetrical equipment for the instruction of from three hundred and fifty to four hundred students.

The growth of the Institute, and especially the changes recently made, have necessitated great increase of administrative work, while, since four years ago, the hours of instruction in my own department have been doubled. Temporary clerical and other assistance, always cheerfully provided when requested, has afforded some relief, yet with it, the whole work has been so exacting that outside engagements demanding much time or strength could not be undertaken. I have given myself assiduously to the proper work of the Institute, and have had the satisfaction of seeing, especially this year, some

of my ambitions for it in the way of realization. I am sure that foundations are laid not only for greater general prosperity, but for more definitely satisfactory work for students than has heretofore been possible.

Yet the two-fold work which has fallen to me has come to be too onerous and too multifarious for any one person to undertake. A division of it is needful at once, and certainly must soon be made. In view of this re-organization, and since at this juncture personal and family considerations weigh strongly in favor of a change of location as soon as it can be conveniently arranged, it has seemed to me a fitting time to tender, as I do hereby, through you to the Corporation of the Institute, my resignation both as president of the Faculty and as professor of geology and mineralogy, this resignation to take effect at the close of the present school year.

Whenever my successor or successors shall be appointed, it will give me pleasure to assist, in every way possible, in the transfer of the duties which have fallen to me.

I also desire to express to the gentlemen of the Corporation my thanks for their courtesy, consideration and large co-operation in the administration of the affairs of the Institute, and to crave for it in the future the utmost prosperity and usefulness.

I am yours very truly,
HOMER T. FULLER.

Worcester, June 9, '94.

Dr. Homer T. Fuller:

Dear Sir:—Your letter of the 19th of April last, addressed to President of Trustees of the Worcester Polytechnic Institute, touching your resignation "both as President of the Faculty of the Institute and as Professor of Geology and Mineralogy," was referred by the Trustees to the undersigned, as a special committee, with instructions to communicate to you an expression of their appreciation of "your long, valuable and most faithful service to the Institute." There has been some necessary delay in our reply to your letter, for until their meeting to-day, the Trustees had taken no final action upon your resignation. At their meeting this afternoon, they did accept your resignation, to take effect July 1, 1894.

During the twelve years of your presidency, you have had the great satisfaction of witnessing the constant and very rapid growth of the Institute in all its departments. The number of its students has more than doubled during the time, its endowments have largely increased, its annual income more than doubled; its buildings for laboratories and other purposes and its Pro-

fessors and other Instructors have been multiplied more than two-fold; so that the Institute at the close of your administration, in all that constitutes it a polytechnic school, has attained a higher degree of excellency and prosperity than it has ever before reached. And your own agency, in the attainment of this most satisfactory condition of the Institute has been an important factor, for, in addition to your eminent success as an instructor in your own special department, your supervision over, and management of, the financial affairs of the Institute, so far as they have fallen within the line of your duty, has been beyond all just criticism.

In accepting your resignation of the very arduous and responsible position you have so long and so honorably held, permit us, collectively as a body and as individuals, to express to and for you our sincerest friendship and our best wishes for your own health and that of your family and for your future happiness and success in whatever fields of labor you may hereafter engage. Yours very truly,

P. EMORY ALDRICH,
G. HENRY WHITCOMB,
HENRY A. MARSH,

Committee.

FACULTY ACTION.

The following letter received by Dr. Fuller from the Faculty, is self-explanatory:—

"Worcester Polytechnic Institute,

"Worcester, June 28th, 1894.

"My Dear Dr. Fuller,

"Agreeably to a vote of the Faculty of the Worcester Polytechnic Institute, this day assembled, I hereby transmit to you a portion of the action of the Faculty at this meeting, as follows:—

"In view of the withdrawal from his work among us, of Homer T. Fuller, Ph.D., President of the Faculty, and Professor of Geology and Mineralogy, the Faculty, by their unanimous vote, make the following entry upon their records:

"In Dr. Fuller, the Institute has had a faithful, earnest, and untiring supporter. During his twelve years of office, he has, with marked constancy, devoted himself to the duties of his position, and to the interests of thorough education and true manhood.

"He has directed the complex details of administration in a growing institution, with eminent ability. For organizing and building up his own special department he deserves much praise.

"All friends of the Institute should be unceasingly grateful for his unselfish, painstaking, indefatigable efforts in its behalf.

'With generous self-forgetfulness he has always stood ready to lighten the burdens of students and associates by his words of wise counsel, and by his acts of kindly sympathy.

'Personal interests have been entirely subordinated to those of others, and he has been ready to do anything in his power to help a fellow-man to be his best.

'By his gentlemanly consideration and unfailing courtesy he has earned our lasting regard.

'In parting from him and his family, we lose real friends, and the cause of cultured Christian citizenship loses intelligent, earnest upholders.

'Wherever Dr. Fuller decides to re-engage in his chosen work, we heartily wish for him the rewards due to the faithful efficient service which he is unusually well qualified to render.

'In behalf of the Faculty,

'Yours very sincerely,

'GEORGE E. GLADWIN,

'Secretary.'

SKETCH OF DR. FULLER.

As Dr. Fuller is about to leave, a short sketch of his life, together with a likeness of our former president, will be of interest to all.

Dr. Fuller received his classical education at Kimball Union Academy, Meredith, N. H., and entered Dartmouth College in the fall of 1859. Immediately after graduating, he became principal of the Fredonia Academy, at Fredonia, New York, which position he occupied until March, 1867. He took the Academy when it was in a somewhat low state and quadrupled its numbers. He spent a year at the Andover Theological Seminary, and later he went to the Union Theological Seminary, New York City, where he graduated May, 1869. He taught for two months at St. Johnsbury, Vermont, in the Academy, and after two years in the ministry, in 1871, he accepted an offer to become principal of the St. Johnsbury Academy and put it on a modern basis. He took the school with fifty pupils and \$7000 endowment, and when he left it in 1882 to come to Worcester it had 250 students and a well invested endowment of \$100,000. During his connection with the Academy he was given a year's leave of absence, which he spent in travel and study abroad.

Dr. Fuller's studies have not only been scientific, but he has done more or less in the mental and moral sciences. He has followed the Clark University work closely. His specialty has been geology and mineralogy. He has made several valuable collections, one of which occupies a place at St. Johnsbury and another at the Polytechnic Institute. He has lectured frequently upon scientific subjects, having delivered

lectures in the Conant course in Sterling for four years. He has also delivered scientific lectures in Fitchburg, Framingham and Westfield.

Dr. Fuller is a fellow in the American Association for the Advancement of Science, and was a director of this association. He is a member of the American Institute of Mining Engineers, a fellow of the Geological Society of America, a vice-president of the American Institute of Instruction, a trustee of the Fredonia Academy, and has been a member of the American Philological Society, an editor of the Journal of Education, president of the Vermont State Teachers' Association, and Normal school examiner of Vermont.

THE NEW PRESIDENT.

It is understood, although not yet officially announced, that the new president will be Thomas Corwin Mendenhall, LL.D. and Ph.D., at present Chief of the United States Coast Survey, although he resigned his position there last week, leaving little doubt but that he is to be Dr. Fuller's successor.

Thomas Corwin Mendenhall was born in Hanover, Ohio, in 1841, and hence is fifty-three years of age. He received a common school education, but displayed a natural taste for physics and it is in this science that he has become most famous. He received the degree of Ph.D. from the University of Ohio, in 1878, and that of LL.D. from the University of Michigan, in 1887. For five years succeeding 1873, he was professor of physics and mechanics at Ohio University, going from there to the Imperial University, in Tokio, Japan, where he filled the same chairs.

He returned to this country in 1881, and from 1882 to 1884 was engaged in the establishing and organizing of a State weather service in Ohio, and he instituted at the same time a scheme for displaying weather signals on railroad trains, and it is this system which is now so extensively employed in this country at the present time. In 1884 he became connected with the Signal Service, but soon accepted the presidency of the Rose Polytechnic Institute, in Terre Haute, Indiana, and is at present employed on the coast survey.

While in Japan, Dr. Mendenhall performed some experiments in discovering value for specific gravity, by which he ascertained the value for the mass of the earth, agreeing with that found by Francis Bailey, by another method, in England.

He measured specific gravities at the sea level and at the top of the extinct volcano of Fujiyama, and by this got his result.

He has written a number of books and pamphlets, among them "The Century of Electricity," published in 1887.

WASHBURN MECHANICAL ENGINEERING SOCIETY.

It certainly must be gratifying to Profs. Alden and Higgins to see the increasing interest taken by the students and alumni in the monthly meetings of this Society. Yet it is no more than their due, for they have labored incessantly in bringing the society up to its present high standard.

The Society was founded on the 15th of March, 1892, with a constitution so framed, that students from the two upper classes and the alumni were eligible to membership.

Its object is to bring those connected with the Institute in close contact with the outside mechanical and scientific world. How well it is accomplishing its object can be readily perceived by attending the meeting.

Every month one or more papers are presented before the Society, not in the regulation composition style, the information extracted from the encyclopedia to a large extent, maybe by embryo scientists, but by men, generally Tech graduates, who present information derived from experience.

There is a tendency among the students to look upon these meetings with suspicion, as if the subjects presented are too deep and abstruse. But this is nonsense, for the benefit which is derived from attendance on these meetings is in proportion to the mental ability of the recipient.

The topics and subjects are all live questions of the day, and discussion is freely invited. In our opinion the student should consider himself fortunate that he has a chance to investigate these questions at such an inconsiderable cost, namely, two hours a month. We do not intend this for a lecture, but wish simply to bring to the student's attention the fact, that with the schools and colleges turning out so-called engineers by the hundred, it is the successful graduate who has made the most of his opportunities.

A man may reason, "Why, I'm a chemist, or maybe an electrical engineer, and what do I want to bother my intellect with mechanical considerations for?" For this class of mortals we would say that the meetings for him would be waste of time, as his reasoning capacity is too limited.

The man who has attended the last four meetings and says he has not been benefited, is one of two things, either a Rankine or a blockhead, with the probability of the latter.

We cannot express our approbation too strongly in favor of this and similar organizations, and

only hope that the future students may appreciate the efforts of the professors and alumni in their behalf.

The thirteenth regular meeting was called to order by President Burdick at 3.30, May 20th, in the Chapel. After the reading of minutes by Secretary Alden, the chair called for a report of the Publication Committee, consisting of Messrs. Rockwood, Heard and Davenport. This committee recommended the publication of a pamphlet of thirty-two pages, which should contain a stenographic report of papers and debates, and cuts of all illustrations used while giving the paper.

In connection with this report, several notices of changes in the Constitution were given, one clause providing for the editor of the proposed pamphlet. Notice was given of the proposed cancellation of the word "Mechanical" in the name of the Society.

Prof. Alden then described the proposed improvements to be made by means of the recent State appropriation.

A four-story building, 110 by 52 feet, is to be built just west of the Shops. The basement and first floor are to be used for general laboratory work. Near the Shop will be a one-story power-house. Thus no heavy work will be done in the building proper. The power-house will be supplied with several motors, which can be used separately or collectively, as the test may require.

The second floor of the large building will contain the lecture and recitation rooms and the special libraries. On the third floor will be rooms for free-hand drawing, mechanical drawing, and machine design. In the power-house will be placed a gas engine which it is expected will give one horse-power for every pound of coal consumed. Prof. Alden spoke also of Mr. Salisbury's generosity in supplying means for water tests, and of the 36-inch meter and the wiers to be used in testing water flows.

The following committee was appointed to bring in nominations for next year's officers: —Tolman, '71, Edwards, '83, A. L. Smith, '90, Leyden, '92, and Harrington, '95.

The paper of the day was read by Arthur W. Hunt of Chicago, Ill., on "The Ideal Tech Graduate from the Employer's Standpoint." The paper was a most interesting and instructive one, and excited much debate afterwards.

The speakers were: W. T. Hatch, '73; W. W. Bird, '87; C. D. Parker, '79; W. R. Billings, '71; A. B. Upham, '78; Geo. R. Rockwood, '88; W. L. Chase, '77; E. E. Johnson, '84; Edwin H. Marble and C. H. Morgan.

The paper will appear in the next issue of the W P I.

THE MODERN COLLEGE JOURNAL.

What should the modern college journal be? To what extent should it be a literary paper, and to what extent a news medium, considered from the standpoint of the average college.

In some colleges a paper is published by literary societies, and its object is the promotion of literature; the larger college papers publish daily editions, and contain the current news of interest to the students. But what should a weekly or bi-weekly paper be? Such a publication can contain very little real news. It should be a paper devoted to the interests of the college as well as to the interests of the students. It should be a medium for interchange of thought among the students and among colleges, and as such should be made use of more than is customary.

It is as true to-day as it was in those ancient days when the people of Europe made their pilgrimages to the East, that closer relations with one another, freer exchange of thoughts and ideas, will awaken men's minds, and bring about a reformation, if one is needed. And how can this be brought about among students of a college, and those of their sister institutions, better than through the college journal, when used as it should be?

Its object should be to discuss subjects of interest, keep the students interested in the doings of the college, and to let friends outside know what is being done along all lines of advancement. A large number of the subscribers are among the alumni of the college, and this fact should be of great importance to the students. The alumni are interested in the college and its members. Do students realize how much these men who have been through the course, and are now out in the world for themselves, can help them, and do they themselves realize it? Surely, a part of the paper should be devoted to them, and they should make the freest use of it by sending in articles and notes for publication.

The editors, with the scanty time they have to put on a paper, cannot make it a literary production, and yet it seems as though a college paper ought to contain some articles of true literary merit. This work should be done by students outside the board, who, in their leisure moments, might occasionally write articles for the journal, and would surely find it a very profitable investment of their time.

As a news medium the paper should contain events of the college, and such happenings in other colleges as are of interest to the students. Such writings can hardly be called literary, yet care should be taken that they are always written

up in the best and most interesting manner. A college journal is not a money-making scheme, and should not be regarded as such. It should be a benefit to every student, and so considered by him. He should be willing to write for it occasionally, and not expect author's prices for his work. Considered from all points, the modern college journal should be for the students and alumni, and by the students and alumni; not for the students, and by the editors.

Steam furnishes the power to run an engine, and the governors regulate it. One does not give the governors a whirl, and expect to see the engine move. So is it with this engine, the college journal, the editors are the governors, but the students are the power. Don't give the governors a whirl, and expect to see it run. To make the modern college journal a success, editors, students, and alumni, all must combine their forces.

And now a few words to our own college paper. Although improvements are constantly taking place, a few words and suggestions may not be amiss. To students and alumni: More of you should write for the W P I, manifest greater interest, and all subscribe.

To the editors, let me suggest one or two changes which would please many of the readers. Attempts have been made to have more of the graduates of the Institute send in accounts of their doings, but one more final effort should be made to have them interested, and send in a column or more, for at least every alternate issue.

A page or so of lighter matter, college verse, etc., might be inserted to break up the monotony which is sometimes unavoidable, and would, I think, be acceptable to, and appreciated by, its readers. It often happens that a fellow picks up his paper while having a fit of "blues," and finding nothing but weighty, sober thoughts, lays it aside in disgust. At such times if his eye should fall upon some light, witty reading it would tend to change the flow of his thoughts, and perchance cause him to look upon the brighter, more cheerful side of matters, and think there was still some pleasure left in life.

In point of personal appearance the W P I is considered by all to be neat and attractive, but perhaps the opening sheet might be improved if a small cut, or other device, were inserted to break up the abruptness of the start upon the editorials.

With care and few changes our paper might be made a model, an ideal, of the modern college journal.

THE BANJO CLUB.

There are certain well-gnawed chestnuts in the Institute, relics, not monuments, of which are handed year by year from the upper to the lower classes. The most remarkable feature of these nuts is, that instead of decreasing with succeeding gnawings, they constantly assume increasing proportions.

To be a little more definite, we will designate these relics, "no time" and "lack of social intercourse," and it was to prove the absurdity of the former melancholy cry, and to assist the partisans of the latter, that the Banjo Club was brought into existence. It is not prevarication to say that the Club has been a result of the perseverance of certain members of the class of Ninety-Four, yet it remains with succeeding classes to see that this organization, which has flourished through thick and thin for the past two years, shall continue upon its prosperous career.

Messrs. Boyden and Harris, seeing how enjoyable and profitable such an organization might become to the students, sought for an opportunity to form a club. Opportunity was forthcoming in the spring of 1892, when Mr. Harris, at the request of Mr. Marshall, '93, canvassed the Institute for musicians, and organized a club of 14 members, which acquitted itself creditably at the minstrel show. Mr. Dillon, '94, was leader, and Mr. Wheeler, '94, was instructor.

When the promoters of this club, however, wished to make it permanent they were met on every side by the cry of "no time." Not to be thwarted, Mr. Prince, a successful leader of former years, was solicited for advice, and it was through the information obtained from this source that the Club, when formed, succeeded in escaping the snares and windfalls which had entangled previous organizations.

Disregarding the "no time" excuse, seven men, namely, Boyden, Magaw, and Harris, '94, Gage, '93, and Chambers, Leland, and O'Connor, '95, came together one day and formed the Tech Banjo and Guitar Club. They drew up a very simple, but effective, constitution; one which they have held to closely ever since. Mr. Boyden was elected leader, and Mr. Harris manager.

In the spring of 1893, the class of Ninety-Six contributed its quota in the players. Gifford, Carroll, and Lamson.

The primary object of the Club was enjoyment, and in that they succeeded beyond expectation. They played at numerous church socials, gave several small concerts, and finally, in connection with the Boston Tech Glee Club, gave a most successful concert in Association Hall to a well-filled house.

In the fall of '93 the Club continued upon its career with Mr. Boyden as leader, and Mr. Magaw as manager.

In the spring of 1894, Boyden was again elected leader, and Harris was elected business manager, but owing to dissatisfaction arising among the members, the Club disbanded, and reorganized with Mr. Chambers as leader, and with the former manager.

According to the old adage, "It never rains but it pours," misfortune seemed to follow the club, for Mr. Chambers was obliged to resign. However, Mr. Wheeler, '94, stepped in and gave the Club the benefit of his instruction until Mr. Chambers was enabled to resume the leadership.

From the beginning the members have never borne a cent's expense, and all agree that the organization has been most successful. With the exception of the Spencer affair, the Club has never failed of an encore.

Boyden and Chambers well deserve great credit for the time and energy spent in its development, and Mr. Wheeler has the Club's thanks for his valuable services.

CHARLES G. HARRIS.

THE TENNIS ASSOCIATION.

This Association is the most popular of the closed clubs of the Tech, and justly so, for no other club furnishes better the ends for which its members join.

It is useless to speak of the game, for everyone knows that there is no more exhilarating and healthful pastime.

The Institute formerly had three grass courts, that is, they were grass at first, but owing to constant use they were worn so badly as to be of a mongrel type. So three years ago the Association petitioned the Trustees to be allowed to lay out dirt courts at the bottom of the hill. The ground was carefully prepared and graded, and the courts soon ready for use, and ever since the ranks of the Association have been full. From its very beginning the Association has had among its members players of much ability who have brought honor to the W. P. I.

In order to increase the ability of the players Mr. Jang Langdsing, '87, presented the Association a cup, to be competed for at the fall tournament, by the winner of the tournament and the holder of the cup.

The first winner was H. L. Dadnum, '91, an athlete, not only of local, but world-wide reputation. His chief rival then was A. B. Kimball, '89, a player of more than average ability.

Mr. H. M. Southgate, '92, made his appearance this year, but was defeated easily by Dadnum. Southgate kept at it, however, and soon

developed into a strong player. He won the Crescent Club championship, and also that of the Winslow Club. At the Worcester County championship he met many strong players, but defeated them all and established his title to the championship of the city. He was, however, defeated in the county championship. He won the Tech championship in this year, and in '90 and '91, as well. He also won many other tournaments outside. '95 brought a new champion in J. J. Coburn, who defeated the champion of the previous years in a sharply contested match. He also won the championship last fall.

For inexplicable reasons the other clubs in the city have disbanded, leaving the whole field to the one at the Institute, and so we have been crowded with applications for membership from outsiders, and have issued a quite large number of associate membership tickets. This has one advantage also—it gives us the honor of making the first step toward co-education at the Institute.

This spring, for the first time, an open tournament was held and several outside entries were received from Holy Cross College and from city players. They all fell before the prowess of Coburn, but yet it was more interesting than if Tech men alone had competed. We hope that the tennis reputation of the Tech will be upheld by the future classes, and that we will be able to send men to compete in the Intercollegiate championship.

HENRY J. FULLER.

THE CLEVELAND W. P. I. ALUMNI ASSOCIATION.

Cleveland was represented at the Tech for several years, prior to June, 1890, by Windsor T. White, Francis W. Treadway and Chas. F. Treadway, who, as graduation approached, determined, as a result of several conversations, that a special altar to Alma Mater should be set up at home, to be comprised of the local alumni if they could be worked up to the necessary pitch. Both Treadways, however, being absent from the city for the ensuing two years, the work, if work it may be called, fell upon the shoulders of Mr. White, since all resident alumni enthusiastically welcomed the idea when once suggested.

As a result of this agitation the first meeting was held at the Hollenden in Cleveland, in June, 1892, when, after an elaborate spread, an association was formed and the first officers thereunder elected. Frank Aborn, '72, was declared the unanimous choice for president, John G. Oliver, '82, for vice-president, and Jang Landsing for secretary and treasurer. The others present were Willard Fuller, '84, Windsor T.

White, '90, and Chester B. Albee, '84, of Allegheny, Pa. Since then meetings have been held each half-year, in December and June, at which, in December, 1892, Chas. H. Stearns, '91, of Indiana, Pa., was a guest, and one special dinner has been given in honor of Edwin H. Whitney, '71, of Providence, R. I.

The Association has for its aim the refreshment of the inner man, mutual benefit, and the cultivation of memories of Tech days; not necessarily in the order named, though the menu card has never yet been neglected. The best interests of the Institute are aimed at by the Association, though as a recruiting body, for various reasons, little has been attempted. As a field for graduates, however, Cleveland, with its large and varied manufacturing and commercial interests, offers great inducements, and the local Association is ever ready to assist within its power any seeking to locate here. That none come this way as each class graduates is always a subject of comment at meetings.

The membership at present consists of Frank Aborn, '72, Professor of Drawing in the Public Schools; John G. Oliver, '82, of Bardous & Oliver, manufacturers of tools and machinery; Willard Fuller, '84, supt. of Emma Furnace of the Union Rolling Mill Co.; Jang Landsing, '87, recently removed to New York; Windsor T. White, '90, secretary of the Cleveland Machine Screw Co.; F. W. Treadway, '90, attorney at law, Treadway & Marlatt; Chas. F. Treadway, '90, with Nicola Bros., lumber, with field headquarters at High Bridge, Ky.

The Association is looking for new members, and wish all alumni living within one hundred and fifty miles of Cleveland would arrange to be with them in December next, for a royal "good old Tech time."

The mid-summer dinner and annual election of officers was held at the Hollenden in Cleveland, Tuesday evening, June 14th. Frank Aborn, '72, was elected president for the ensuing year, Willard Fuller, '84, vice-president, while Windsor T. White, '90, drew a reprimand and fine for absence and was inflicted with a re-election to the office of secretary and treasurer. T.

THE WASHINGTON ALUMNI ASSOCIATION.

In June, 1890, a number of Tech men, then employed in Washington, met for an impromptu dinner. It was there decided to form the Washington Branch of the W. P. I. Alumni Association. Since that time a meeting has been held each year, of which the principal feature has been a dinner.

The membership includes all graduates who

live in or near Washington, and anyone who has ever attended the Tech is invited to be present.

The general object of the "Branch" is to promote the good fellowship among the Techs who are so situated that they can attend, to welcome the newcomers of each year, and to keep in touch with the progress and prospects of the Alma Mater.

Each year has brought its changes in the absence of old members and the coming of new ones, but the number has gradually increased, and now there are eighteen who are supposed to be available for the meeting to be held this month. More than half of this number are employed as Patent Office Examiners, a few as teachers of manual training, and the rest in miscellaneous occupations. The class of '74 is the oldest class represented, and that of '93 the youngest, '87 having the largest representation.

The officers for the past year have been: J. H. Griffin, '85, Pres., and L. H. Harriman, '89, Sec'y.

H.

PI IOTA CHAPTER OF PHI GAMMA DELTA.

Pi Iota Chapter of Phi Gamma Delta was organized on Nov. 20th, 1891. The charter members were A. E. Culley, H. M. Southgate, R. L. Morgan, V. N. Cushman, William Nelson, R. C. Cleveland, F. A. Morse, Wm. N. Stark and William F. Burleigh. In Sept., 1892, it was decided to take No. 7 Highland street as a chapter house. Since that time this house has been a pleasant home for all members of the Fraternity. A steward has served meals and rooms have been provided for those who desired to live in the chapter house. Younger students are given the advantage of intimate association with those who have been in the Institute two or more years. It has been the aim of the Society to admit to membership only those who shall do it honor. Its object is to wield a powerful influence by virtue of the union of those who have the same desires and aspirations. It seeks for solid worth in a fellow and has never been deceived by artificiality.

The Society feels that a fair proportion of the Institute triumphs have fallen to its lot. It can be truly said that the interests of the Institute have been made the interests of the Fraternity. It is the belief of the writer that notwithstanding the many objections to the growth of fraternity life in connection with the Institute, this social organization is a means of preserving a feeling of unity among students of congenial natures and should be encouraged to such an extent that a symmetrical school-life shall be assured.

C.

SIGMA ALPHA EPSILON.

The entrance of Sigma Alpha Epsilon into the Institute is of quite recent occurrence. Previous to the formation of Massachusetts Delta, a local society, called the Tech Co-operative Society, was formed, with the distinct purpose of obtaining a charter from some prosperous Greek letter fraternity. This purpose was accomplished, when, on March 10th of the current year, the society proceeded in a body to Auburndale, Mass., where they were initiated into the Fraternity, and Massachusetts Delta of Sigma Alpha Epsilon was instituted.

Upon examining the field of fraternities, the members of the local society agreed that Sigma Alpha Epsilon would be the best. The Fraternity was founded in Alabama in the year 1856. Until late years extension has been carried on only through the West and South, and in those sections it is one of the strongest and most prosperous of fraternities. Of late years, however, northern extension has been urged, and now the fraternity has a firm foothold among our New England colleges.

The fraternity pin is of very pretty design. It is diamond-shaped, with either a plain or jewel-set border. On the centre portion, with an enamel field, is a figure of a woman, her hand resting on a lion's head. Above are the letters Sigma Alpha Epsilon, and below, against a white background, are the letters Phi Alpha.

The Institute local chapter has remained in the quarters on John street which were occupied before the installation. The chapter is in a flourishing condition, having a roll of seventeen members. The annual banquet was held June 10th at the Commonwealth Hotel. The chapter roll is as follows:—

'94—C. M. Allen, H. L. Cobb, E. B. Whipple, E. W. Davenport, G. W. Heald, H. N. Smith, H. B. McFarland.

'95—G. A. Denny, W. O. Wellington, G. C. Gordon, F. E. Wellington, C. A. Harrington.

'96—G. S. Gibbs, J. B. Mayo, F. E. Congdon, W. H. Cunningham, T. H. Coe.

H.

ENTRANCE EXAMINATIONS.

Fifty-four candidates took the examinations in either all or some of the required subjects, on the 19th and 20th of June.

Those who have taken all the subjects and are eligible to entrance next fall are:—

William G. Allen, 20, Worcester, English high.

A. P. Ball, 18, Worcester, English high.

William B. Bingham, 18, Northampton, Northampton high and Williston.

Charles A. Booth, 17, Globe Village, Worcester Academy.

Thomas T. Briggs, 20, Coeymans, N. Y., English high.

Albert H. Bumstead, 19, Atlanta, Ga., Worcester Academy.

Frank E. Craig, 20, Fitchburg, Fitchburg high.

Arthur T. Fuller, 18, Leominster, Leominster high.

Henry M. Fuller, 17, Cherry Valley, Leicester Academy.

Paul S. Green, 20, West Auburn, English high.

Frank C. Harrington, 18, Worcester, English high.

Thomas C. Harris, 18, Washington, D. C., Worcester Academy.

Charles T. Hawley, 19, Brattleboro, Vt., Brattleboro high.

Fred L. Hayden, 18, Fitchburg, Fitchburg high.

Albert E. Hayes, 17, Fitchburg, Fitchburg high.

Alfred O. Hitchcock, Jr., 20, Fitchburg, Phillips Andover.

John L. Johnson, 18, Fitchburg, Fitchburg high.

Ralph R. Knowles, 19, Worcester, English high.

Howard S. Knowlton, 16, Worcester, English high.

Herbert A. Moody, 17, Biddeford, Me., Bennington Academy.

Edward F. Morrill, 18, Fitchburg, Fitchburg high.

Willard B. Nelson, 18, St. Johnsbury, St. Johnsbury Academy.

Arthur S. Newcomb, 20, Biddeford, Me., Biddeford high.

Wiley H. Perkins, 18, Chicopee, Chicopee high.

Everett Perry, Worcester, Classical high.

Burton A. Prince, 18, Worcester, English high.

Burton W. Prince, 21, Milford, N. H., Cushing Academy.

Karl B. Reed, Worcester, Classical high.

James R. Rogers, 17, Rochdale, Worcester high.

Jas. T. Rood, 18, Worcester, English high.

Walter Slader, 22, Acworth, N. H., St. Johnsbury Academy.

Leon Smith, 19, Chicopee, Chicopee high.

Howard H. Warner, 17, Cromwell, Conn., Highland Military Academy.

Emil Zaeder, Worcester, English high.

Gilbert Bloss, Washington, D. C., Columbian University.

DR. FULLER'S RECEPTION.

On Thursday evening, June 14th, President and Mrs. Fuller tendered a reception to the Senior class at their home on Boynton street. Prof. and Mrs. A. S. Kimball and Prof. and Mrs. U. W. Cutler received with Dr. and Mrs. Fuller, the guests being presented by the ushers, Henry J. Fuller, Alba H. Warren and Alex. W. Doe. Light refreshments were served, while Miss Anna Fuller and Miss Eleanor Kimball presided over the lemonade.

During the evening musical selections were given by Charles N. Chambers, E. L. Burdick and Miss Ellen Coombs. Henrique B. da Cruz entertained the guests with Spanish songs and whistling solos, and Theodore Lawson and A. H. Wheeler rendered guitar and mandolin selections.

The reception was a most pleasing and successful affair.

MR. SALISBURY'S GIFT.

At a meeting of the Board of Trustees of the Institute, held June 9th, it was decided to proceed with the erection of a hydraulic testing plant, to afford the students complete instruction in the measurement of power as determined by turbine wheels and other appliances.

The plant will be located at Chaffinville, where Hon. Stephen Salisbury has donated a site. Not content with this, Mr. Salisbury has purchased and presented to the Institute the Venturi meter which was used at the World's Fair for measuring the water supplies there. The water privilege is close to the railway station and not very far from the Institute. The pond contains two hundred acres, so there is an ample water supply. The building to be erected will be fitted with a turbine water-wheel of fifty horse-power, a measuring weir and the Venturi meter. A hydraulic brake, designed by Prof. G. I. Alden of the Institute, will also be set up here.

The committee in charge of the project consists of C. H. Morgan, Chairman; Hon. Stephen Salisbury, G. Henry Whitecomb, and Charles G. Washburn.

Profs. Alden and White are making the plans for the building.

SOCIALISTS' MEETING.

According to the plan formulated by the Ninety-Three members of this society at their banquet last year, a meeting was held immediately succeeding the commencement exercises on Thursday. '92 was represented by some nine members, '93 by about eighteen, '94 by two, and '95 by two. With President Taylor in the chair, the meeting was called to order and opened business by listening to J. P. Coughlin, while he read letters from absent members. Some of these were short and to the point, but there were others. However, the opinion was generally expressed that it would be a good thing for the Society to become merged into a Greek letter fraternity of good standing. The '92 members explained that, although they were perfectly willing to stand by the club, yet all active movements must be made by the undergraduate members, and as these at present number but six, all action was postponed to next fall, when it is hoped more will join and proceed to extend the sphere of usefulness. Before adjournment a collection was taken up to defray the expenses of the meeting, a sum considerably in excess of that needed being realized.

S. A. E. BANQUET.

Massachusetts Delta Chapter of Sigma Alpha Epsilon Fraternity held its annual banquet on

Monday evening, June 11th, at the Commonwealth Hotel. Besides the undergraduate members of the Chapter, a number of '93 members were present. Mr. C. T. Tatman of Harvard Chapter was the guest of the evening.

After discussing an elaborate menu, the following toasts were called for by toastmaster Henry N. Smith:—

S. A. E.—Charles A. Harrington.
 Tech Life.—H. B. McFarland.
 Our "Queens."—E. Walter Davenport.
 Base-Ball.—George C. Gordon.
 The Faculty.—Eugene B. Whipple.
 The Glee Club.—George W. Heald.
 Foot-ball.—James B. Mayo.
 Somebody changed her mind.—Geo. A. Denny.
 The K. P.'s.—Nathan Heard.
 Exams.—Thomas H. Coe.
 March 10th, 1894.—William H. Cunningham.
 Our Members.—Harry S. Cobb.

CHAS. H. FAULKNER, '90.

Whereas, The Class of '90, Worcester Polytechnic Institute, deeply feel the loss of their late classmate and friend, Charles H. Faulkner, whose untimely death has cast the first shadow on our organization;

Resolved, That we hereby express our sorrow at the removal of our comrade from our midst, and

Resolved, That we sincerely sympathize with his family in their bereavement, and

Resolved, That these resolutions be incorporated in the records of the Class and given to the press for publication.

J. P. ANDERSON, }
 C. K. PRINCE, } Committee.
 A. L. SMITH, }

Worcester, Mass., June 22d, 1894.

ALUMNI OFFICERS.

The executive committee of the Alumni Association met Thursday evening, June 28th, and elected the following officers of the Association: President, W. W. Bird, '87; first vice-president, Edward F. Tolman, '71; second vice-president, H. Winfield Wyman, '82; third vice-president, Victor E. Edwards, '83; clerk of the executive committee, W. L. Chase, '77.

SHOP NOTES.

Those at work in the shop on Saturday, June 23d, viewed the circus parade in a body from the field at the head of Boynton street.

Business in grinders is very dull, only a few small orders having been received of late. Several drawing stands have, however, been shipped last month.

The out-of-town work is decidedly brisk, a large force being at Providence where, among other jobs, the Kent and Stanley contract is being rapidly pushed to completion.

Summer practice began on June 11th, and since then there has been a steady force in the Shops, at times so large that it was difficult to find work for all. Very few fellows residing in Worcester have yet made up their time, as those living out of town have first chance.

Since our last issue there has been but little of interest going on at the Shop. A contract for a freight elevator has been recently taken for a firm in Pittsfield, Mass. A short-run elevator has also been put in on Pleasant street in this city, and likewise one in the Arlington Mills at Lawrence, Mass.

Rumors are in circulation to the effect that should business continue quiet at the Shops, it will be necessary to close them during the month of August. At the office, the W P I man was informed that there was nothing definite at present decided upon, although it would not be surprising was this step taken.

Ever since the Superintendent granted the first permit for a banquet lamp, the blacksmith shop has been taxed to its utmost capacity with students making lamps to carry away with them as evidences of their skill in ironwork. Not a few, to the writer's knowledge, have been donated to some fair maiden in distant parts. Some very handsome ones have been turned out, about three and a half days being required in their production.

ALUMNI NOTES.

[It is our endeavor to notice under this heading such items of news affecting graduates of the Institute as may interest their classmates and friends among the Alumni, and we wish to make it known that the co-operation of all is most desirable, and will be appreciated.—THE EDITOR.]

'73. At the annual meeting of the American Society of Civil Engineers, held at Niagara Falls from June 20th to the 26th, J. W. Kendrick was elected a member of the nominating committee.

'78. A recent letter to the W P I from Frank T. Fay contained a generous donation to the Base Ball Association. Although the letter was not intended for publication, the Editor has taken the liberty to extract the following: "I had the pleasure of witnessing the excellent games played in Clinton on Memorial Day, and think the nine well deserves the support of both students and alumni. . . . A pitcher who can pitch two winning games in one day, and strike

out the fifty-fourth man, ought to have a good backing."

Such interest from the alumni is encouraging and just what is needed. Would that there was more of it!

'81. We beg to acknowledge the receipt of a pamphlet from Nathan A. Cobb. The pamphlet is entitled, "Tricoma and other new Nematode Genera," contains about fifty illustrations, and was originally published last year in the "Proceedings of the Linnean Society of New South Wales.

'83. Albert S. Peckham, whose residence and occupation has not been given in recent catalogues, is now living in Easton, Pa., where he is employed in the shops of the Ingersoll-Sergeant Drill Co.

John E. Gallagher received notice on Tuesday, June 12th, of his appointment as supervising foreman of construction at the new post-office in this city, with orders to enter upon his duties at once.

'84. This class held a reunion at the Colonnade on the evening of June 21st. Those present were: C. B. Albree, J. H. Churchill, E. E. Johnson, E. D. Priest, W. W. Estes, J. N. Heald, W. H. Moulton, A. H. Wheeler.

'87. This class enjoyed a spread and general good time in the Bay State House immediately after graduation exercises. These officers were elected for the ensuing year: President, W. W. Bird of Cambridge; Vice-Presidents, E. F. Miner of Worcester, E. H. Fairbanks of Philadelphia, C. J. Sawyer of Hudson, H. S. Streeter of Dudley; Secretary and Treasurer, Frank Harvey, M. D., Clinton. Among others present were J. O. Phelon and Geo. A. Ward.

'88. The class of Eighty-Eight met in a private parlor at the Bay State and there enjoyed a bounteous spread. The reunion was attended by G. I. Rockwood, G. W. Patterson, J. B. Chittenden, C. B. Smith, H. E. Rice, F. D. Holdsworth, G. M. Warren.

'90. Twenty-one attended the reunion of this class, which was the most formal of any of the reunions. Elmer C. Rice presided and Everett J. Lake was toastmaster. The affair was enjoyed by Elmer C. Rice, E. J. Lake, Julius W. Bugbee, Louis E. Booth, James J. McLane, Edward M. Rockwell, H. E. Warren, C. D. Sherman, A. L. Smith, Herbert L. Austin, A. B. Larche, Joseph H. Devlin, Charles Jenness, W. L. Smith, Clarence K. Prince, Frank A. Whipple, Clarence G. Davenport, Paul B. Morgan, James P. Anderson, Harrison P. Wires, James H. Clancy.

'91. The engagement is announced of Bradford A. Gibson, now employed as draughtsman

for Norcross Bros., contractors and builders, to Miss Edith Herrick of this city.

Ex-'91. F. S. Paine, formerly with Brown and Sharpe, is now with the Morgan Construction Company of this city.

'92. The first reunion of this class was held in the parlors of the Lincoln House. Twenty-one sat down to supper and listened to these toasts, M. J. Leyden presiding. The toasts were: "Our First Reunion," L. C. Smith; "Worcester," J. S. Bartlett; "Maine," A. H. Smith; "Holyoke," H. M. Page; "Household Hints," C. A. Tucker; "Our Next Reunion," E. H. Fish.

'93. A letter from Gompei Kuwada, dated May 19th, 1894, Osaka, Japan, announces his appointment in the Japanese army as Military or General Engineer at the Government Arsenal, Osaka.

Kuwada has the daily inspection of the 14 steam plants, and of all machine tools used in the manufacture of rifled mortars for coast defense, field artillery, and small arms. In addition to this duty he has to do design work, such as girders and piping, for use in public work in Japan.

Charles Baker, Jr., is secretary of the recently incorporated firm, The Charles Baker Lumber Company of this city.

Fred H. Greenwood recently took the examinations for the United States Patent Office, being at present a draughtsman for the Knowles Loom Works.

M. F. Goodrich is now a cadet on the schoolship *S. P. Chase*, which left New Bedford for Spain the last of May. The ship will return to America during this fall.

Nathan Rice is with the Thompson-Collier Electrical Concern.

Ex-'94. Ralph Waldo Emerson is at present employed in the shops of the Brown and Sharpe Company of Providence, R. I.

TECHNICALITIES.

The Socialists held their annual banquet and initiation at the Commonwealth Hotel on June 15th.

The Society now passes into the hands of '95, of which class the following are members: Poore, Chambers, Bryant, Taylor, Copeland and Barber.

The next institute year begins Wednesday, Sept. 12th. The classes will report on that day as follows:—Seniors will meet at 2 P. M., Juniors at 3, Sophomores at 4, Freshmen at 5, in Chapel.

LOUIS W. SOUTHGATE,

Late Examiner U. S. Patent Office, formerly
head Draftsman Pond Machine Tool Co.,

COUNSELLOR-AT-LAW AND SOLICITOR OF PATENTS,

W. P. I. Class, '85.

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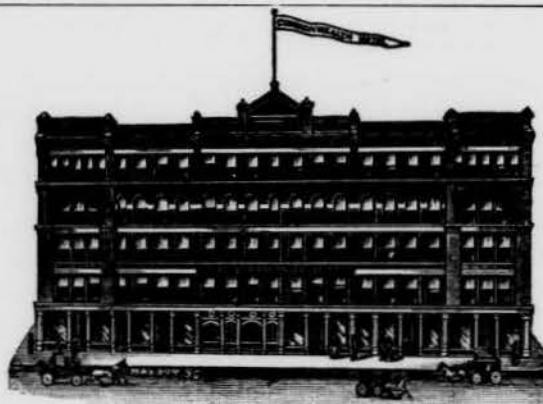
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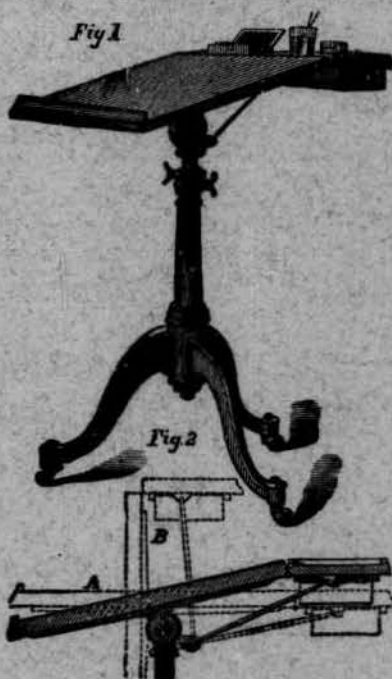
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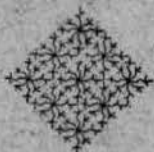
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